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ABSTRACT

This research project focuses on the implementation and testing of the Dewey Decimal Classification (DDC) system as an online searcher's tool for subject access, browsing, and display in an online catalog. The research project comprises 12 activities. The three interim reports in this document cover the first seven of these activities: (1) obtain documentation and selected portions of DDC from Inforonics and experiment with this DDC in a machine environment; (2) share the results of Activity 1 with library representatives, DDC editor, Forest Press, consultants, and Council on Library Resources (CLR) Project Monitor and obtain their recommendations for DDC fields and text for subject access, browsing, and display in an online public access catalog (OPAC); (3) evaluate recommendations of Activity 2 with DDC editor and other concerned parties to determine DDC fields and text for subject access, browsing, and display in an OPAC; (4) obtain participating libraries' bibliographic records in classification areas of interest; (5) index each library's bibliographic records in ways characteristic of online catalogs; (6) design, test, and implement software to provide subject access, browsing, and display of the DDC in the OPAC; and (7) design, pretest, and refine research design, experimental procedures, post-search interview instruments, and sample searches. Numerous appendices include a version of the Dewey Online Catalog for review, lists of reviewers, their comments, and questionnaires and worksheets. (THC)

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DEWEY DECIMAL CLASSIFICATION ONLINE PROJECT:

INTERIM REPORT TO THE COUNCIL ON LIBRARY RESOURCES

April 1984

by

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Background

The Dewey Decimal Classification (DDC) Online Project supported by the Council on Library Resources focuses on implementing and testing the DDC as an online searcher's tool for subject access, browsing, and display in an online catalog. The machine-readable DDC that is used in this research project was converted from the print tapes which originally served to produce the 19th edition of the printed DDC using computerized photocomposition. Two features of the DDC will be employed to aid online catalog searchers to match their subject terminology with an online catalog's terminology: (1) the subject terminology in the DDC Schedules (e.g., headings, scope notes, class here notes, including notes, etc.) and the DDC Relative Index, and (2) the hierarchical arrays of related terminology in the DDC Schedules. Through these subject terminologies, online catalog users will have much more subject information than is presently available in online catalogs, i.e., subject headings and title terms from bibliographic records, with which to match their search terms and to browse for better terms to express their topics.

In the research project, these two subject terminologies will be incorporated into an online catalog as searchers' tools for subject access, browsing, and display. The effectiveness of this DDC in an online catalog will be tested in online retrieval experiments with library patrons and staff at the Library of Congress, New York State Library, Public Library of Columbus and Franklin County, and University of Illinois at Urbana-Champaign.

The research effort requires twelve activities. These activities are depicted in flowchart form in Figure 1. At the present time, the DDC Online Project Team is completing Activity 4, i.e., obtaining libraries' bibliographic records, to prepare for the incorporation of the DDC into the Developmental Online Public Access Catalog (DOPAC) in Activities 5 and 6. The discussion in this report is organized according to the four activities upon which the DDC Online Project Team has worked during the granting period January 1, 1984 to April 1, 1984.

Activity 1: Obtain documentation and selected portions of DDC from Inforonics and experiment with this DDC in a machine environment.

The 19th edition of the DDC was printed using computerized photocomposition. Forest Press commissioned Inforonics, Inc., to study the print tapes of the 19th edition and reformat the data into an automated structure designed to facilitate editorial management of the 19th edition of the DDC and publication of future editions in whatever medium might be desired. The result of Inforonics' processing of the DDC print tapes will provide the "raw data" from which DDC fields and text will be selected and processed into the information retrieval environment of an online public access catalog for use by subject searchers as a tool for subject access, browsing, and display.

In mid-November 1983, Inforonics sent to the DDC Online Project Team a magnetic tape containing two small portions from the 200 schedules of the machine-readable Dewey Decimal Classification, and written documentation. The documentation enabled the Team to dump the tape and identify the data. The tape contained those portions of the DDC for class numbers 200 through the centered heading at 222-224, and for class numbers 271 through 294.548.

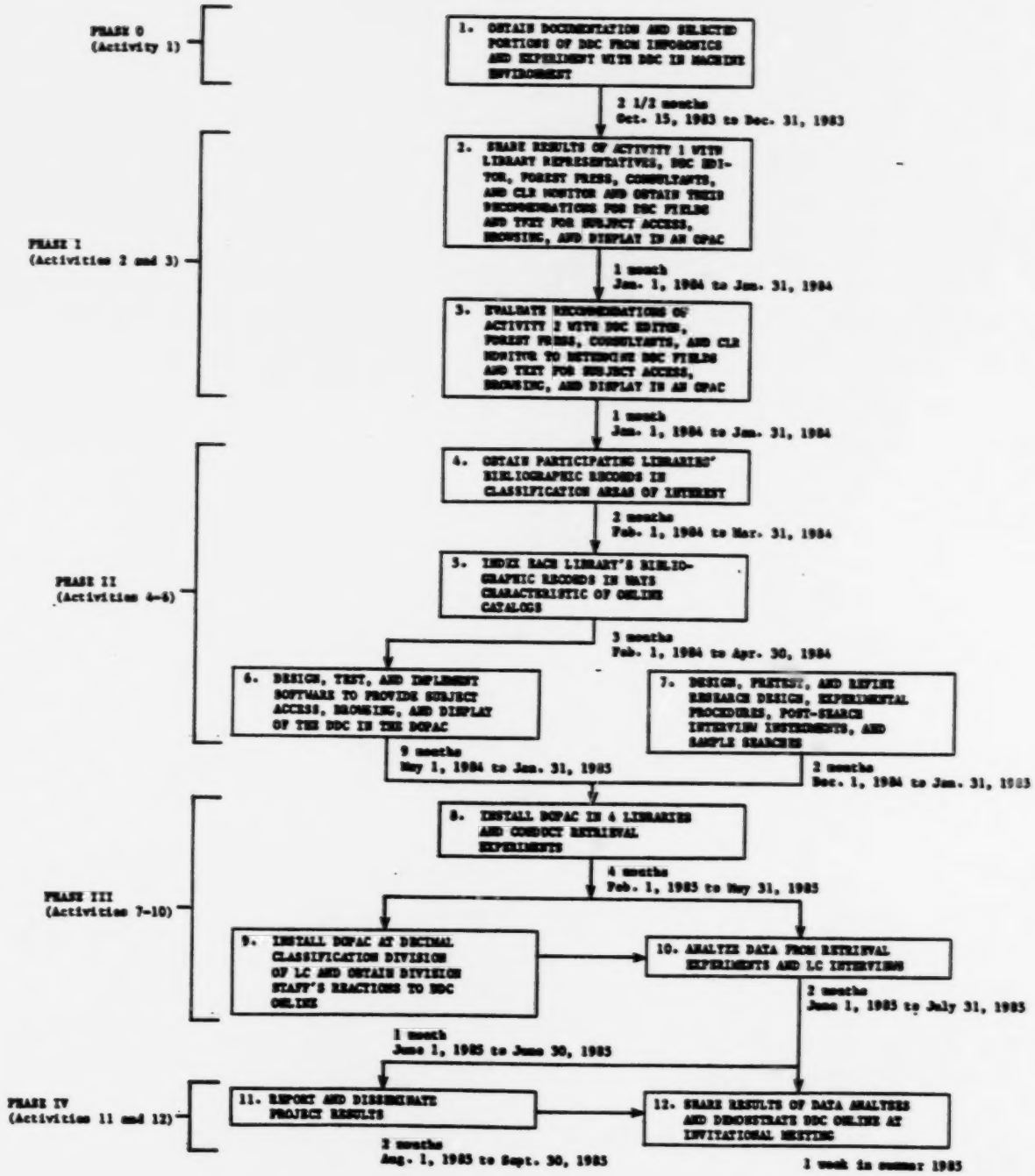
PHASE 0
(Activity 1)
1. OBTAIN DOCUMENTATION AND SELECTED PORTIONS OF DDC FROM INFONICS AND EXPERIMENT WITH DDC IN MACHINE ENVIRONMENT
2 1/2 months
Oct. 15, 1983 to Dec. 31, 1983
PHASE I
(Activities 2 and 3)
2. SHARE RESULTS OF ACTIVITY 1 WITH LIBRARY REPRESENTATIVES, DDC EDITOR, FOREST PRESS, CONSULTANTS, AND CLR MONITOR AND OBTAIN THEIR RECOMMENDATIONS FOR DDC FIELDS AND TEXT FOR SUBJECT ACCESS, BROWSING, AND DISPLAY IN AN OPAC
1 month
Jan. 1, 1984 to Jan. 31, 1984
3. EVALUATE RECOMMENDATIONS OF ACTIVITY 2 WITH DDC EDITOR, FOREST PRESS, CONSULTANTS, AND CLR MONITOR TO DETERMINE DDC FIELDS AND TEXT FOR SUBJECT ACCESS, BROWSING, AND DISPLAY IN AN OPAC
1 month
Jan. 1, 1984 to Jan. 31, 1984
PHASE II
(Activities 4-6)
4. OBTAIN PARTICIPATING LIBRARIES' BIBLIOGRAPHIC RECORDS IN CLASSIFICATION AREAS OF INTEREST
2 months
Feb. 1, 1984 to Mar. 31, 1984
5. INDEX EACH LIBRARY'S BIBLIOGRAPHIC RECORDS IN WAYS CHARACTERISTIC OF ONLINE CATALOGS
3 months
Feb. 1, 1984 to Apr. 30, 1984
6. DESIGN, TEST, AND IMPLEMENT SOFTWARE TO PROVIDE SUBJECT ACCESS, BROWSING, AND DISPLAY OF THE DDC IN THE DOPAC
9 months
May 1, 1984 to Jan. 31, 1985
7. DESIGN, PRETEST, AND REFINE RESEARCH DESIGN, EXPERIMENTAL PROCEDURES, POST-SEARCH INTERVIEW INSTRUMENTS, AND SAMPLE SEARCHES
2 months
Dec. 1, 1984 to Jan. 31, 1985
PHASE III
(Activities 7-10)
8. INSTALL DOPAC IN 4 LIBRARIES AND CONDUCT RETRIEVAL EXPERIMENTS
4 months
Feb. 1, 1985 to May 31, 1985
9. INSTALL DOPAC AT DECIMAL CLASSIFICATION DIVISION OF LC AND OBTAIN DIVISION STAFF'S REACTIONS TO DDC ONLINE
10. ANALYZE DATA FROM RETRIEVAL EXPERIMENTS AND LC INTERVIEWS
2 months
June 1, 1985 to July 31, 1985
1 month
June 1, 1985 to June 30, 1985
PHASE IV
(Activities 11 and 12)
11. REPORT AND DISSEMINATE PROJECT RESULTS
12. SHARE RESULTS OF DATA ANALYSES AND DEMONSTRATE DDC ONLINE AT INVITATIONAL MEETING
2 months
Aug. 1, 1985 to Sept. 30, 1985
1 week in summer 1985

Fig. 1. Flowchart of 12 Research Project Activities

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200 Religion

Beliefs, attitudes, practices of individuals and groups with respect to ultimate nature of existence and relationships within context of revelation, deity, worship

Class here religious mysticism, comprehensive works on Christianity

Class comparative religion, works dealing with various religions in 291

The following options give preferred treatment to, or make available more and shorter numbers for the classification of, any specific religion other than Christianity that it is desired to emphasize. Full instructions appear under each number

A. Class in 230–280, with scriptures in 220
B. Class in 210 or 291
C. Class in 298, which is permanently unassigned
D. Give preferred treatment by placing before 220, 291 or 292 through use of a letter or other symbol. Full instructions appear under 292–299

.1 Philosophy and theory

Origin, nature, validity of religious beliefs

Fig. 2a. Entries for DDC numbers 200 and 200.1 from the printed DDC. Source: Dewey Decimal Classification and Relative Index. Devised by Melvil Dewey. 19th ed. Edited under the direction of Benjamin A. Custer. Albany, NY: Forest Press; 1979. Volume 2; p. 93.

```
lsq830803211700014
rno20000100
me200
metReligion
not#rBeliefs, attitudes, practices of individuals and
groups with respect to ultimate nature of existence and
relationships within context of revelation, deity,
worship
nch#rClass here religious mysticism, comprehensive works on
Christianity
nce#rClass comparative religion, works dealing with various
religions in 291
nop#rThe following options give preferred treatment to, or
make available more and shorter numbers for the
classification of, any specific religion other than
Christianity that it is desired to emphasize. Full
instructions appear under each number
nce#mA. Class in 230$280, with scriptures in 220
nce#mB. Class in 210 or 291
nce#mC. Class in 298, which is permanently unassigned
not#mD. Give preferred treatment by placing before 220, 291
or 292 through use of a letter or other symbol. Full
instructions appear under 292$299
srfSchedule-Full Ed.
\\

lsq830803211700022
rno20000200
me200.1
metPhilosophy and theory
not#rOrigin, nature, validity of religious beliefs
srfSchedule-Full Ed.
\\
```

Fig. 2b. Machine-readable DDC unit records for classification numbers 200 and 200.1.

Fig. 2. Published and Machine-Readable Entries from the DDC Schedules

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The documentation provided by Inforonics is attached to this report as Appendix A. In this documentation, John J. Finni, Program Analyst at Inforonics, describes data fields of a "DDC schedule unit record," special characters, and delimiters. This documentation is summarized by the example in Figure 2 in which two entries from the printed Schedules of the DDC (Figure 2a) are reproduced above their counterparts in machine-readable form (Figure 2b). Figure 2b shows two DDC unit records: one record for class number 200 and one record for class number 200.1. Generally, the same information and the order in which it appears in the printed entries has been maintained in the machine-readable records. The apparent differences between the entries in the machine-readable DDC and the entries from the printed Schedules of the DDC are: (1) type font; (2) separation of text pertaining to a single class number into labeled data fields in the machine-readable entries; (3) indention and spacing of text; (4) addition of the initial three digits of the class number in the ME field of the machine-readable entries (other than those entries whose ME field only contains a three digit class number; and (5) addition to the unit record of data fields such as source of data and unique record numbers, e.g., SRF and ISQ data fields.

Records such as those presented in Figure 2b constitute the "raw data" from which the DDC will be fashioned into a library user's tool for subject access, browsing, and display in an online catalog. Additional examples of entries from the printed DDC schedules are given in Appendix B. These examples range from class number 200 to 200[.9011] in the printed DDC. Their counterparts in machine-readable form are presented in Appendix C.

In Figure 3, the machine-readable unit record for DDC class number 200 is given with the data fields labeled so that the reader does not have to flip back and forth between Figure 3 and Appendix A to identify data fields and become familiar with Inforonics' definitions of these fields.

Dumping the DDC produced by Inforonics into a machine environment and identifying data fields and their contents was prerequisite to manipulating the data into sample displays of the DDC hierarchy. This exercise of producing sample displays helped the DDC Online Project Team to obtain an understanding of the machine-readable DDC and to obtain hands-on experience with this data, i.e., two of the three objectives of Activity 1. It also helped us anticipate problems with the data when the data are incorporated into the DOPAC as an online user's tool. These problems, such as how to handle class numbers no longer in use but enumerated in the schedules or note fields that have no value to library patron users of the DOPAC, were noted during our investigation in Activity 1 and formed the basis for a written report to the Council on Library Resources and project participants. The report summarized the results of Activity 1 to prepare the Council and project participants for a meeting in late January 1984.

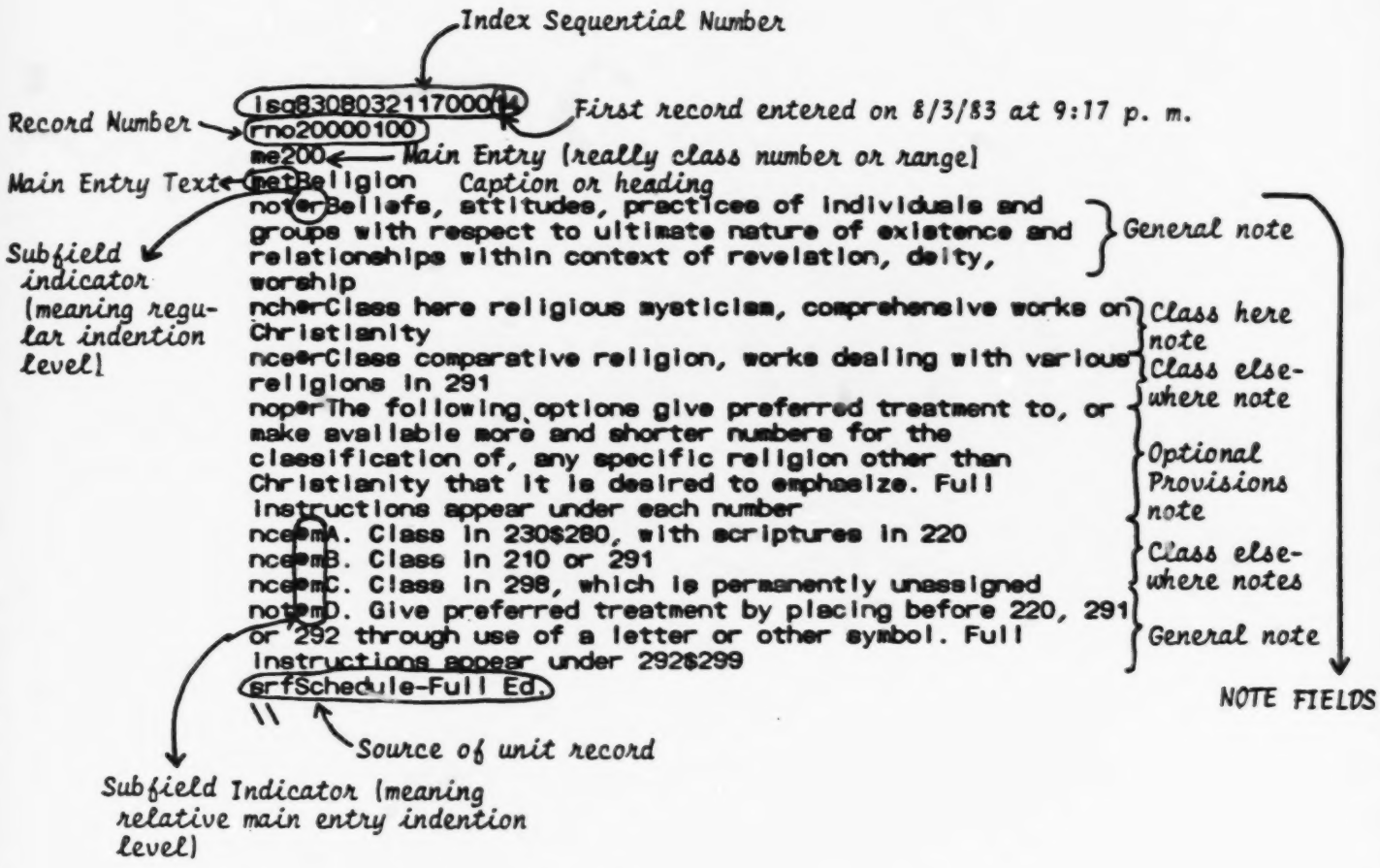
Index Sequential Number
isq830803211700014
First record entered on 8/3/83 at 9:17 p. m.
Record Number
rno20000100
me200 Main Entry (really class number or range)
Main Entry Text
metReligion Caption or heading
noterBeliefs, attitudes, practices of individuals and groups with respect to ultimate nature of existence and relationships within context of revelation, deity, worship
General note
Subfield indicator (meaning regular indention level)
ncherClass here religious mysticism, comprehensive works on Christianity
Class here note
nceerClass comparative religion, works dealing with various religions in 291
Class elsewhere note
noperThe following options give preferred treatment to, or make available more and shorter numbers for the classification of, any specific religion other than Christianity that it is desired to emphasize. Full instructions appear under each number
Optional Provisions note
nce mA. Class in 230$280, with scriptures in 220
nce mB. Class in 210 or 291
nce mC. Class in 298, which is permanently unassigned
Class elsewhere notes
not mD. Give preferred treatment by placing before 220, 291 or 292 through use of a letter or other symbol. Full instructions appear under 292$299
General note
srfSchedule-Full Ed.
Source of unit record
NOTE FIELDS
Subfield Indicator (meaning relative main entry indention level)

Fig. 3. Machine-Readable Entry for 200 from the DDC Schedules with Fields and Data Identified

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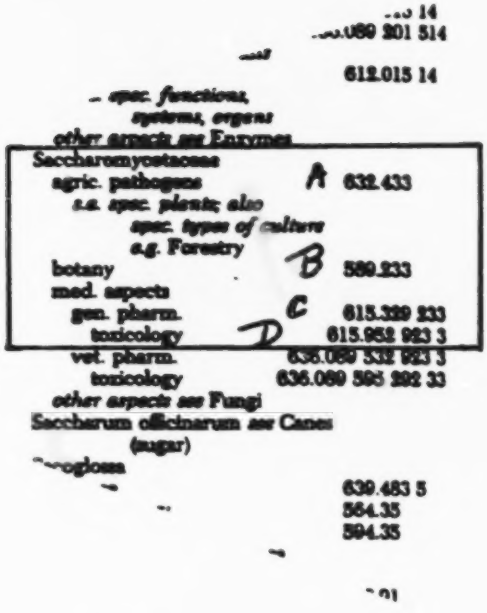
The sample displays produced in Activity 1 are given in Appendix D. The display on each page shows class numbers and text of subject-rich fields from DDC unit records, which make up a particular level of the DDC hierarchy. The display includes the class number and text of subject-rich fields of the DDC entry (i.e., class number) which is one level higher in the hierarchy and is linked in concept and in notation to other listed entries. Realize that these sample displays are our first attempt to format the machine-readable DDC (as illustrated in Figure 2b and Appendix C) into an outline that will be understandable to library users of online catalogs in which the DDC has been incorporated as a tool for subject access, browsing, and display. Some problems with our sample displays are immediately evident, such as the inclusion of subfield delimiters (e.g., @r or @m) and special typesetting characters (e.g., $ or ^). Analyzing and evaluating these displays confirmed our suspicions about the potentials and problems of incorporating this machine-readable DDC into an online catalog.

Inforonics and the staff of the Decimal Classification Division at LC supplied the DDC Online Project Team with an example of an entry from the Relative Index of the Dewey Decimal Classification, which had been formatted into data fields. This entry for "Saccharomycetaceae" is shown in Figure 4; the entry as printed in the published DDC is given first, followed by its counterpart in machine-readable form. Like entries from the machine-readable version of the Schedules (see Figure 3), this entry from the Relative Index has fields containing a unique record number and source of unit record.

The work effort in Activity 1 provided the DDC Online Project Team with knowledge of and hands-on experience with the machine-readable data in the DDC Schedules and Relative Index. This enabled the Team to present the results of Activity 1 to CLR prior to the meeting of all project participants in late January 1984. During the 1984 mid-winter meeting of the American Library Association, the results of Activity 1 were presented orally and in written form to C. Lee Jones, Program Officer of the Council on Library Resources (CLR) and Project Monitor of the DDC Online Project, in his office, by Karen Markey, OCLC Research Scientist and Principal Investigator, Walter W. Curley, Chairman, Forest Press Committee, John A. Humphry, Executive Director, Forest Press, and John P. Comaromi, Editor, Dewey Decimal Classification, and Chief, Dewey Decimal Classification Division of the Library of Congress.

Activity 2: Share the results of Activity 1 with library representatives, DDC editor, Forest Press, consultants, and CLR Project Monitor and obtain their recommendations for DDC fields and text for subject access, browsing, and display in an OPAC.

A meeting of all participants in the DDC Online Project was held on January 25 and 26, 1984 in a conference room at the Dewey Decimal Classification Division of LC in Washington, DC. Prior to that meeting, the Principal Investigator sent an agenda of the meeting to all participants (see Appendix E) and over 45 pages of handouts (many of which are included as figures and appendixes in this Interim Report). This information was provided to brief participants on the results of Activity 1 and to prepare them for discussions concerning the implementation of the DDC into the DOPAC as an online user's tool for subject access, browsing, and display.



...o 14
...o.089 201 514
...of
612.015 14
... spec. functions, systems, organs
other aspects see Enzymes
Saccharomycetaceae
agric. pathogens — A — 632.433
e.g. spec. plants; also spec. types of culture e.g. Forestry
botany — B — 589.233
med. aspects
gen. pharm. — C — 615.329 233
toxicology — D — 615.952 923 3
vet. pharm. 636.089 532 923 3
toxicology 636.089 595 292 33
other aspects see Fungi
Saccharum officinarum see Canes (sugar)
...ogloea
639.483 5
564.35
594.35
...01

Index entry for "Saccharomycetaceae" from the published DDC Relative Index. Source: Dewey Decimal Classification and Relative Index. Devised by Melvil Dewey. 19th ed. Edited under the direction of Benjamin A. Custer. Albany, NY: Forest Press; 1979. Volume 3; p. 954.

Machine-readable entries for "Saccharomycetaceae" from the DDC Relative Index. Entries are marked A, B, C, and D to facilitate identification.

```
-- RECORD 1 --
IA      SACCHAROMYCETACEAE@BAGRIC. PATHOGENS@N632.433
IRF     INDEX-FULL ED.
ISD     830605130100107                    (A)
RND     190010

-- RECORD 2 --
IA      SACCHAROMYCETACEAE@BBOTANY@N589.233
IRF     INDEX-FULL ED.
ISD     830605130100123                    (B)
RND     190012

-- RECORD 3 --
IB      SACCHAROMYCETACEAE@BMED. ASPECTS@CGEN. PHARM.@N615.329 233
IRF     INDEX-FULL ED.
ISD     830605130100131                    (C)
RND     190013

-- RECORD 4 --
IC      SACCHAROMYCETACEAE@BMED. ASPECTS@CGEN. PHARM.@BTOXICOLOGY
        @N615.952 923 3
IRF     INDEX-FULL ED.
ISD     830605130100148                    (D)
RND     190014
```

Fig. 4. Published and Machine-Readable Entries from the DDC Relative Index

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The participants in the meeting on January 25 and 26, 1984 were:

Julianne Beall, Decimal Classification Division, LC
Jo Calk, Automation Planning and Liaison Office, LC
Lois Chan, University of Kentucky
Pauline Cochrane, Syracuse University
John Comaromi, Decimal Classification Division, LC
John Finni, Inforonics, Inc.
John Humphry, Forest Press
Karen Markey, OCLC
Margaret Morrison, General Reading Rooms Division, LC
Richard Palmer, Public Library of Columbus and Franklin County
Peter Paulson, New York State Library
Keith Russell, Council on Library Resources
Geraldene Walker, OCLC
Arnold Wajenberg, University of Illinois at Urbana-Champaign
Robert Zich, Planning Office, LC

Principal Investigator, Karen Markey opened the meeting on January 25 by reviewing the project's objectives and giving an overview of the project. The latter was accomplished by highlighting the work effort in the twelve activities, especially the role of the four participating libraries in Activities 4, 8, and 9.

The Principal Investigator then called on the representatives from each of the four libraries to tell those assembled which classification area(s) had been selected for study in their libraries. After they described the selected areas, Pauline Cochrane noted that there was a preponderance of science and social science areas. She suggested that some participants consider selecting a classification area(s) in arts and humanities disciplines. Consequently, selection of classification area(s) for the four participating libraries was not finalized at this meeting in January 1984.

The primary purpose of this meeting centered on the discussion and resolution (through consensus) of issues concerning the implementation of the DDC online as a user's tool for subject access, browsing, and display in an online catalog.

The discussion concentrated on the following four issues:

a. What user actions induce online displays of the DDC schedule and index?
b. How can the DDC be best indexed to respond to user's actions?
c. How can users manipulate the DDC online?
d. What do online displays of the DDC (Schedules and Relative Index) look like?

Because these four issues were so broad-based, they were broken down into a number of more specific aspects. Pauline Cochrane chaired brainstorming sessions in which these four issues and the many aspects of these issues were explored. The objective of the brainstorming sessions was to obtain consensus on each issue and its aspects. The aspects of the four issues are:

- Should we (i.e., the DDC Online Project Team) include the entire DDC Relative Index in the DOPAC for the retrieval tests or only load those parts corresponding to the classification area(s) selected by each library? (Issues: b)

- Should DDC numbers be maintained in online displays of the DDC Schedule or Index? (c,d)

- Should "formerly" DDC numbers be maintained in online displays of the DDC Schedule? (c,d) What if there are books classed in both numbers (i.e., old and new)? (c,d)

- Should we keep all subject-rich text of the DDC schedules in online displays? (b,d) If all subject-rich text is kept, some displays will exceed 2 screens. (c)

- If all subject-rich text is kept in DDC Schedule displays, how should we label note fields? (d) How should we label note fields when more than 1 note appears per heading? (d)

- Can we simplify references to the Tables of the DDC? (d) Or should we let users try to match geographic subject headings or subdivisions through the Combination LCSH-DDC Relative Index (DDCRI) Strategy? (b,d)

- When brackets are used in "main entry text" fields (i.e., DDC captions or headings) to indicate "formerly" references, should we delete the data in brackets? (d)

- Should we display headings from the DDC Schedules that have Ø postings, i.e., no books have been assigned the DDC number in that library? What if there are books assigned to a DDC number (and heading) on the next level of the DDC hierarchy? For example, 201.1 has Ø postings, and 201.11 has 58 postings. (d)

- How can we designate to users that there are more screens in lower levels of the DDC hierarchy? (c,d) For example, the user looks at headings 201, 202, 203, and so on; how does he know that there is a 201.1?

- How much should we indent headings and other subject-rich data in displays of the DDC Schedules? (d)

- Will the text of DDC headings be understandable to users, e.g., "Standard Subdivisions?" Do we have to edit selected headings? (b,d)

- Should DDCRI entries maintain indentions (as in printed Relative Index) or be separated by a symbol such as / or ;? (d)

- Should secondary Relative Index entries and subdivisions of assigned subject headings be separated into secondary screens linked to the first by prompts? (c,d)

- Should postings (i.e., number of books) be included in browse displays of DDC Schedule captions or DDC Relative Index entries? (d)

- Should abbreviations in DDCRI be spelled out in online displays? (b,d)
- How can we (automatically) identify NOT (i.e., general note) fields that do not have subject-rich information? (b,d)
- In online catalog searches, when will DDC browse displays of the Schedule and Index be most helpful to users in their ongoing search? (a,b) What are the characteristics of users' input terms that will trigger such displays? (a,b)
- When users retrieve 1 classification area in a keyword search, should the resulting display of the DDC Schedule be the same level of the hierarchy, narrower level, or broader level? (a,d) What if there is no narrower level?
- When users retrieve more than 1 classification area in a keyword search, how many levels of the hierarchy should be displayed (in the form of DDC captions)? (a,d)
- Are there other strategies for searching the DDC that we have not considered? (a,b)

Given these issues, the discussion became heated at times. The participation and vocalization of the group assembled was at a peak in discussions about strategies for searching the DDC in an online catalog. The perspectives of every participant in the meeting were not always in harmony, but the participants worked together in a constructive manner and achieved a consensus or a majority on several issues (see Activity 3 for a discussion of this consensus). The results of the meeting provided the DDC Online Project Team with a solid foundation for incorporating the DDC as a user's tool for subject access, browsing, and display into the DOPAC.

As the two-day meeting drew to a close, Lois Chan summarized the consensus of the group by reviewing the individual aspects enumerated earlier and by describing the strategy for searching the DDC in the DOPAC in flowchart form. Her summary and the flowchart are provided in this report under Activity 3. When the group disbanded, all participants felt that their involvement should not be limited to a single gathering. It was suggested that the group meet during the ALA Annual and Mid-winter meetings to find out the progress of the DDC Online Project Team and to answer questions about the upcoming retrieval experiments. The Principal Investigator proposed the development of a prototype of DOPAC screen displays and interface using OCLC's mainframe computing facilities. This prototype would provide participants with a glimpse of the DOPAC's interface before it becomes "set in stone" on the DOPAC, stimulate participants to propose improvements to the interface, and provide a vehicle for continuing the group's efforts.

Activity 3: Evaluate recommendations of Activity 2 with DDC editor, Forest Press, consultants, and CLR Monitor to determine DDC fields and text for subject access, browsing, and display in an OPAC.

On January 27, 1984, Karen Markey, John Humphry, John Comaromi, and Lois Chan related to Project Monitor, Lee Jones, the results of the two-day meeting described under Activity 2. The results of that meeting are summarized in this

section. Summaries compiled by Lois Chan and John Comaromi during and after the two-day meeting were very useful when drawing up this summary. The conclusions reached concerning the issues listed under Activity 2 are categorized into four areas: (A) DDC Relative Index; (B) DDC Tables; (C) DDC Schedules; and (D) Strategies for online searching using the DDC.

A. DDC Relative Index

1. Should we include DDC Relative Index in the experimental online catalog?

   Yes: 12 people
   No: 0 people

2. Should we include entire DDC Relative Index in the DOPAC for the retrieval tests or only load those parts corresponding to the classification area(s) selected by each library?

   Entire Relative Index: 4 people
   Parts of the Relative Index: 8 people

3. Should abbreviations in DDCRI (Relative Index) be spelled out in online displays?

   Yes: Majority of group
   No: Minority of group

4. Should DDCRI entries maintain indentions (as in printed DDC Relative Index) or be separated by a symbol such as / or ;?

   Response: The group agreed that it would be helpful to view sample screens in a prototype or in the DOPAC to make a decision.

5. Should secondary Relative Index entries, i.e., entries that are indented under the main index entries, and subdivisions of assigned subject headings be separated into secondary screens linked to the first by prompts?

   Response: The group agreed that it would be helpful to view sample screens in a prototype or in the DOPAC to make a decision.

6. Should postings (i.e., number of books) be included in browse displays of DDC Relative Index entries?

   Yes: 8 people
   No: 4 people

   NOTE: The group would like to view sample screens to confirm their response to this question.

7. Should DDC numbers be maintained in online displays of the Relative Index?

   Yes: 8 people
   No: 4 people

   NOTE: There were some group members who were concerned that patrons would be confused by the inclusion of DDC class numbers, particularly patrons at LC who are more familiar with LC class numbers than DDC numbers.

B. DDC Schedules

1. Should DDC numbers be maintained in online displays of the DDC schedule?

   Yes: 8 people
   No: 4 people

   NOTE: There was concern that LC users would not benefit from DDC numbers listed in online displays since the Library of Congress' collection is organized according to the Library of Congress Classification (LCC).

2. Should "formerly" DDC numbers be maintained in online displays of the DDC schedule? What if there are books classed in both numbers?

   NOTE: Karen Markey recommended that the postings under both numbers be combined so that the same items are retrieved in old and new numbers. There was a consensus that if this procedure was done, terminology such as "formerly" and brackets would be dropped from online displays.

3. When brackets are used in "main entry text" (MET) fields to indicate "formerly" references, should we delete the data in brackets?

   NOTE: See B.2 above.

4. Should we keep all subject-rich text of the DDC Schedules in online displays?

   All subject-rich fields: 3 people
   No subject-rich fields: 0 people
   Selected fields: 7 people

   NOTE: Fields selected by the participants for indexing and display are MET (main entry text), NIN (including note), NEX (example note), NCH (class here note); the majority of the group wanted the NOT field (general note) indexed but not displayed.

5. If subject-rich text is kept in DDC Schedule displays, how should we label note fields? How should we label note fields when more than 1 note appears per heading?

   Label notes: 2 people
   Do not label notes: 9 people

6. How can we designate to users that there are more screens in lower levels of the DDC hierarchy?

   NOTE: The majority felt that prompts at the bottom of the screen would allow users to select broader, narrower, or related portions of the hierarchy. If the user selected a prompt for a narrower level and there was no level at this point, the system would inform the user that there was nothing to display in this regard.

7. Should we display headings from the DDC Schedules that have Ø postings? What if there are books assigned to a DDC number of the next level of the hierarchy?

   NOTE: The majority of the group wanted headings with Ø postings listed. It was agreed that a report of postings should be made at <u>all</u> levels in the hierarchy. A report of cumulative postings was suggested; however, John Comaromi felt that a report of cumulative postings would make it impossible to retrieve items at general numbers. After much discussion, the group wanted two reports of postings: (1) cumulative postings; and (2) postings for the number of items assigned a specific class number.

8. How much should we indent headings and other subject-rich data in displays of the DDC Schedules?

   NOTE: The majority of the group wanted to review sample screens to make a decision.

9. Will the text of DDC headings in the Schedules be understandable to users, or do we have to edit selected headings?

   Edit headings: 5 people
   Do not edit headings: 4 people

   NOTE: Lee Jones cast his vote for "no" on January 27. Now we have a tie! Let's wait until we have some sample screens.

10. How can we (automatically) identify NOT (i.e., general note) fields that do not have subject-rich information?

    NOTE: The majority of the group did not want NOT fields displayed (see B.4) but they did want the text in NOT fields <u>indexed</u> (so that users could match their terms with those in NOT fields).

11. Although searching by class or call numbers was not in the original list of concerns, the issue came up in the discussion. Classifiers could not imagine a system without class number searching. (Note that the percentage of class number access points entered by patron users of online catalogs has been found to be very small in comparison with other access points in analyses of transaction logs). Reference librarians did not feel class number access points would be widely used in retrieval experiments using the DOPAC; however, the majority of the group wanted access by class number.

C. DDC Tables

1. Can we simplify Table references?

NOTE: New York State Library chose two classification areas for study: New York State (NYS) history (class numbers beginning 974.7) and New York State geography (class numbers beginning 917.47). DDC numbers must be built from Table 2 to represent specific topics about NYS history and geography, e.g., geography of the Niagara Frontier or discovery of Niagara Falls. Unfortunately, the notation coded in MARC records is not adequate to automatically identify augmentations of the base number by entries in Table 2. Consequently, John Finni of Inforonics will augment the DDC Schedules under the base numbers for NYS history and geography with Table 2 entries beginning at 747 (i.e., New York State). Eventually, the machine-readable DDC schedule for NYS history and geography will resemble the 16th edition of the printed DDC for these two areas. This is an attempt to integrate DDC schedules with Table references in a classification area where the library has a substantial collection.

D. Strategies for online searching using the DDC. There were four questions listed that treated online searching using the DDC. The questions are listed together and followed by the discussion of strategies from the January 1984 meeting.

1. In online catalog searches, when will DDC browse displays of the Schedule and Index (see Figures 5 and 6) be most helpful to users in their ongoing search? What are the characteristics of users' input terms that will trigger such displays?

2. When users retrieve 1 classification area in a keyword search (see Figure 7), should the resulting display of the DDC Schedule be the same level of the hierarchy, narrower level, or broader level? What if there is no narrower level?

3. When users retrieve more than 1 classification area in a keyword search (see Figure 7), how many levels of the hierarchy should be displayed (in the form of DDC captions)?

4. Are there other strategies for searching the DDC that we have not considered?

Prior to the meeting, all project participants received a packet from the Principal Investigator identifying two basic strategies: (1) browse displays made up of assigned subject headings from bibliographic records and entries from the DDC Relative Index; and (2) keyword search, which directs users to a selection of classification areas.

The browse display strategy is illustrated in Figures 5 and 6. In Figure 5, the user enters the term "Conversion." The system response is a list of assigned subject headings and Relative Index entries beginning with the term "Conversion." If the user had entered a term that did not match an assigned subject heading or Relative Index entry, the system would have defaulted to the keyword search strategy. Figure 6 shows the same approach as Figure 5; this time the user enters the terms "Prostitution in the Middle Ages." Because user has matched the initial word in an assigned subject heading or Relative Index entry, the system responds with a combination of subject headings and Relative Index entries. The user can browse forward and backward in the display. The example shows the browse forward option (A). Had this user selected option C in the second screen, the system would have responded with a prompt asking the user to enter a line number to display titles, and eventually a list of titles assigned the subject given the user's topic (i.e., Prostitution in the Middle Ages"), he probably would have selected line 11, i.e., the assigned subject heading "Prostitution-History," to display titles. In Figures 5 and 6, it is difficult to differentiate between subject headings and Relative Index entries. Selection of line numbers in such displays using option C (display titles to listed topics) triggers the system to produce displays of bibliographic records assigned the listed subject heading or Relative Index entry. (Note that this scenario assumes that bibliographic records have been augmented with Relative Index entries when the class number of a bibliographic record and Relative Index entry match (or nearly match in view of adding numbers from the Tables and Schedules of the DDC) and that these Relative Index entries have been indexed as if they were subject headings.) Had the user in Figure 6 selected option D (continue searching for more on this topic), the system would have defaulted to the second strategy for searching using the DDC -- a keyword approach.

The keyword search strategy features online displays of the DDC hierarchy. The approach requires that bibliographic records be augmented with subject-rich data from the DDC Schedules and Relative Index.

In the following hypothetical bibliographic record, the significant difference between this record and all other bibliographic records is that the DDC caption and other subject-rich data from the DDC Schedules under 704.94855 has been added to the record.

Title: Mother and Child throughout the Ages
Author: I. Conographer
Place: Princeton, NJ: Symbolical Press
Year: 1953
Class: 704.94855 Madonna and Child. Including Mary without Child.
Subjects: 1. Jesus Christ 2. Mary, Virgin 3. Christian Art and Symbolism.

In an inverted file index of the experimental online catalog, the following terms would be indexed along with the index pointer 704.94855, i.e., the class number of the hypothetical bibliographic record containing the terms.

USER: Conversion

SYSTEM: There are 10 aspects of this topic:

LINE	TOPICS--ASPECTS	ITEMS	
1	Conversion	30	S,I
2	--History of doctrines	1	S
3	--Personal experiences	9	S
4	--Psychology	2	S
5	--Rel. experience--Christianity	27	I
6	--Tables--mensuration	6	I
7	--Tables--mensuration--s.a. spec. branches of physics		I
8	--Tables--s.a. other spec. subj.		I
9	Conversion of saline waters	5	S
10	Conversion of waste products	13	S

-end-

OPTIONS:

A Proceed forward in list
B Proceed backward in list
C Display titles to listed topics
D Continue searching for more on this topic
E Start over

KEY. Source of terms:

S = assigned subject headings of bibliographic records

I = DDC Relative Index

In this first strategy, subject headings from a library's bibliographic records and entries from the DDC Relative Index are combined into a display of precoordinated terms. If user's initial term in his query matches an indexed subject heading or Relative Index entry, this type of display is triggered.

Fig. 5. Example of a Strategy for Searching using the DDC in which Subject Headings and Relative Index Entries are Combined

USER: Prostitution in the Middle Ages

SYSTEM: There are 29 aspects of this topic:

LINE	TOPICS--ASPECTS	ITEMS
1	Prostitution	117
2	--California--San Francisco Bay	2
3	--England--London	1
4	--Ethics--Philosophy	7
5	--Ethics--Religion--Buddhism	3
6	--Ethics--Religion--Christianity	43
7	--Ethics--Religion--comp. rel.	1
8	--Ethics--Religion--Hinduism	1
9	--France--Orleans	2
10	--Great Britain	1

-more-

OPTIONS:

A Proceed forward in list
B Proceed backward in list
C Display titles to listed topics
D Continue searching for more on this topic
E Start over

USER: A

LINE	TOPICS--ASPECTS	ITEMS
11	--History	19
12	--Japan--Tokyo	1
13	--Latin America	1
14	--London	2
15	--Nevada	3
16	--New Orleans	1

•
•
•

Fig. 6. Example of a Strategy for Searching using the DDC in which Subject Headings and Relative Index Entries are Combined

USER: Mother mary and jesus

SYSTEM: This topic is treated from 2 perspectives:

LINE	PERSPECTIVE	
1	Jesus Christ and his family	Christology
2	Special topics of general applicability in fine and decorative arts	

-end-

OPTIONS:

A Enter line number of your choice
B Start over

USER: 1

LINE	AREA	TOPICS	ITEMS
1	232.91	Mary, mother of Jesus. Also Mariology	28
2	232.911	Immaculate Conception	5
3	232.912	Annunciation	9
4	232.913	Virginity	0
5	232.914	Assumption (Ascent into heaven)	2
6	232.915	Sanctity and virtues	0
7	232.917	Spiritual powers	0
8	232.918	Miracles and apparitions	1

OPTIONS:

A Display titles to listed topics
B Browse related topics
C Start over

Fig. 7. Example of a Strategy for Searching using the DDC in which Keywords are Indexed and Direct Users to Classification Area(s)

ages	jesus	throughout
art	madonna	virgin
child	mary	without
christ	mother	
christian	symbolism	

When a user of the experimental online catalog enters his query, the terms of the query are matched against indexed terms such as the ones above. The system performs an implicit Boolean AND operation on the input terms. The terms in queries such as:

virgin mary and christ child (or)
virgin and child (or)
mother mary and jesus

are combined in Boolean AND operations and the result to the user is a list of classification area(s) and captions. For example, the query "mother mary and jesus" is processed in the DOPAC as "mother AND mary AND jesus" and results in the displays shown in Figure 7.

These two strategies were presented at the meeting of all project participants and discussed at length. The examples in Figures 5 through 7 have been changed from the original examples (sent to participants before the January meeting) to reflect the group's consensus on issues concerning searching the DDC in an online catalog.

During the discussion by all project participants on search strategy, Lois Chan capsulized the process of online searching using the DDC in flowchart form (see Figure 8). The DDC Online Project Team will follow this process when implementing the DDC as an online user's tool for subject access, browsing, and display in the DOPAC. When Figure 8 is folded vertically in half, the left half represents the "average" online catalog, while the right half represents an online catalog with the DDC as such an online user's tool.

Activity 4: Obtain participating libraries' bibliographic records in classification areas of interest.

Information currently available for each participating library is as follows:

1. University of Illinois (UI)

   Class areas: 510-519 (Mathematics)
   DDC edition: 19th only
   Expected no. of records: 35,000-40,000 in this area; to reduce the number of records to the maximum of 15,000 records, records from a certain date and English language materials will be selected
   Record format: OCLC/MARC
   Maximum length of DDC no.: 11 digits
   Status: expected in early April

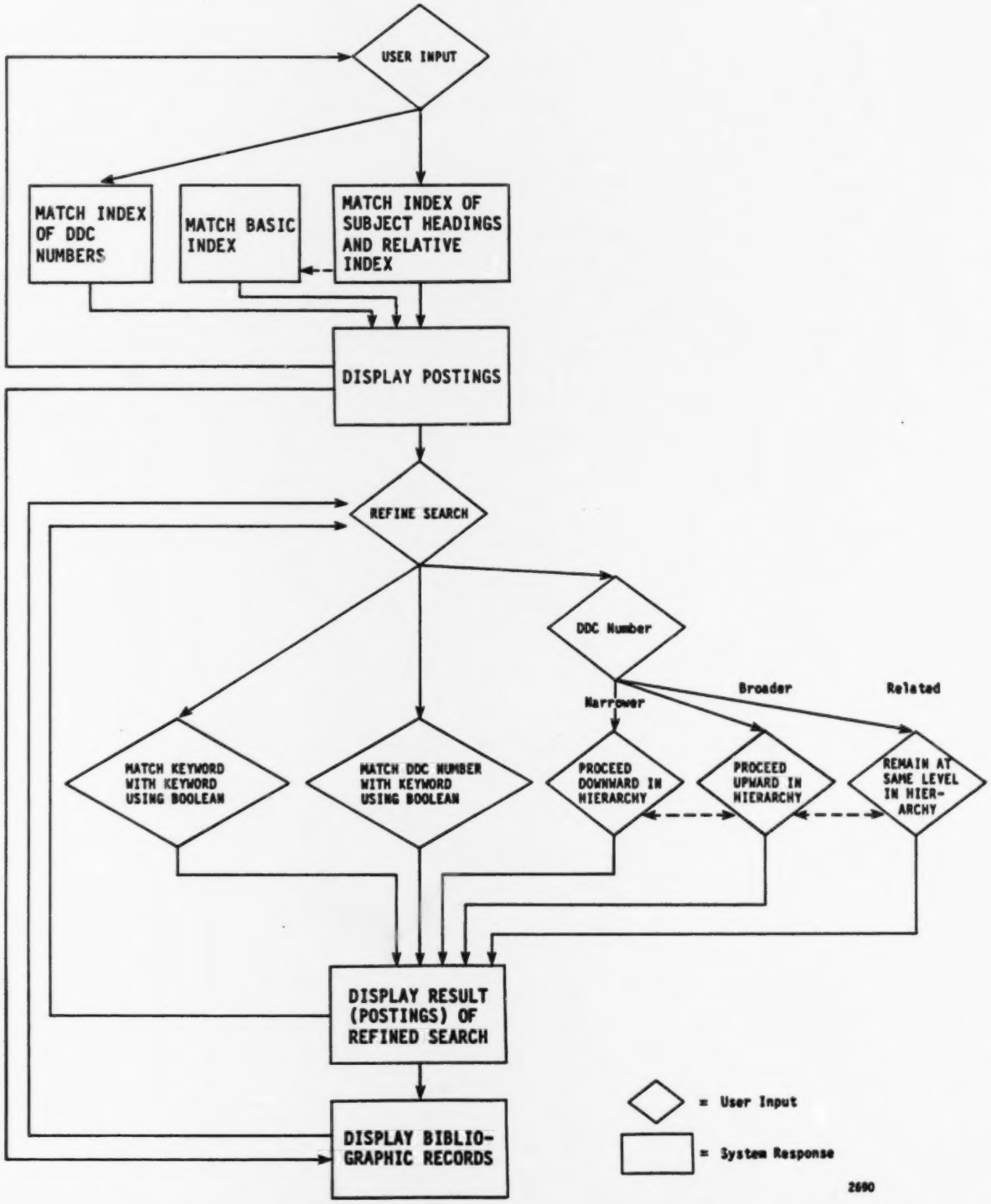

Fig. 8 Flowchart of the Process of Searching the DOPAC with the DDC as an Online User's Tool

2. Library of Congress (LC)

Class areas: 330-339 (Economics); 380-382 (Commerce); 658 (Management)
DDC edition: 19th only
No. of records: 11,873 books records
Record format: standard LC/MARC communications format
Maximum length of DDC no.: unlimited
Note: If there are two DDC numbers listed, index only the second DDC number listed unless the second a subfield contains only [B], in that case, index the number in the first subfield a; remove (or ignore) slashes in DDC numbers
Status: received on March 22, 1984

3. Public Library of Columbus and Franklin County (PLCFC)

Class areas: 790-799 (Recreation and performing arts)
DDC edition: many
Expected no. of records: 13,000
Record format: MARC-like; OCLC/MARC records may be more MARC-like than PLCFC's pre-OCLC/MARC records
Maximum length of DDC no.: varies
Status: expected in mid-April

4. New York State Library (NYSL)

Class areas: P. Paulson named a number of possibilities; after P. Cochrane pointed out that no humanities areas had been chosen by UI, LC, and PLCFC, P. Paulson considered choosing New York State history (974.7+), New York State geography (917.47+), and New York State genealogy (929.+). In early February, NYSL (chose four class areas: 917.47 (NYS geography), 973.1 and 973.2 (US colonial history), and 974 (NYS history).
No. of records: There are 2,075 records beginning with classification number 917.47; 586 records beginning with 973.1; 804 records beginning with 973.2; and 10,961 records beginning with 974, for a total of 14,426 bibliographic records.
Record format: MARC-like
Note: Selection of New York State history and geography requires an integration of New York State headings from Table 2 with schedule data (similar to arrays in DDC edition 16); this integration will be performed by Inforonics.
Maximum length of DDC no.: 10 digits
Status: received on March 22, 1984.

Dissemination of Information on the DDC Online Project

1. OCLC issued a press release on the DDC Online Project on January 19, 1984 (see Appendix F). This release has been reissued in the OCLC Newsletter (no. 150; 1984 February), MPLA Newsletter (28,4; 6: 1984 February), Advanced Technology Libraries (13, 3:6; 1984 March), and Information Age (1,3; 1984 March).

2. The Principal Investigator completed project description forms for inclusion of information about the project in R&D Projects in Documentation and Librarianship (sponsored by Federation Internationale de Documentation) and Current Research in Library & Information Science (sponsored by The Library Association).

3. Specific requests for information about the project were received from Gary Lawrence (Director, Library Research, University of California Systemwide Administration), Mary Hoeber (System Manager, Mission College, Santa Clara, CA), Irene Wormell (University Library of Lund, Sweden), David Martin, (Bibliographic Services Division, The British Library, London, England), Teodora Oker-Blom (NORDINFO, Esbo, Finland), Robert R. Freeman (U.S. Department of Commerce), and Dr. J.P. Sydler (ETH-Bibliothek, Zurich).

4. Principal Investigator, Karen Markey will give a 15-minute presentation to the OCLC Users Council on May 20, 1984. She has also received formal invitations to give oral presentations on the DDC Online Project at the MARC Users Group's 10th Annual Conference in Lancaster, England, in September 1984, and at a workshop on online catalogs in Sweden in September 1984.

Inforonics data base processing and phototypesetting for publishers + library automation services

21 November 1983

Ms Karen Markey
Office of Research
OCLC
6565 Frantz Road
Dublin, OH 43017

Dear Karen:

Enclosed please find a tape of two small portions of the 200 Schedules of the Dewey Decimal Classification as translated into our experimental data base format. The portions represented are from 200 through the Centered Heading at 222-224, and from 271 through 294.548. I have also included a dump of the records which are to be found on the tape. The tape does not contain line numbers, but should otherwise have data identical to that on the dump.

Also attached is some documentation on the data base and on Inforonics' in-house character representation. The following are included:

1. A data base tag and subfield description.

2. A separate description of the various types of note fields. These were created after extensive consultation with the editors of the Dewey Decimal Classification at the Library of Congress. I have also provided a list of phrases which were used by the system in assigning tags to notes by type. The notes which are tagged "not" ("Other types of notes") are those which did not contain a computer-recognizable phrase and/or word. These will be manually retagged later. NOTE: Some of the information contained on this sheet is not relevant to the OCLC project, but is included for the sake of completion.

3. A table listing the Inforonics' special character codes. Although there are very few of these in the sample, the full list may come in handy later. The following characters, which appear as "Typeset Standard" on the special character table, should be noted:

$ = en-dash	' = closing quote
_ = em-dash	^' = opening quote

4. In addition, the editors asked that the asterisk which is used in some records, and which translates into \21 in Inforonics' usage, be translated into a single character. We have used an exclamation point (!) for the asterisk wherever it occurs. Had a dagger (\26) occurred in the sample, it would have been converted to a plus sign (+).

The complete data base which you will receive later will use standard ASCII characters, so the convention used in paragraphs 3 and 4 will not be pertinent. As a result, it would be wise not to spend much effort converting characters without speaking to us.

I hope that this documentation answers all of your questions about the data on the tape. If not, I can be reached by phone at any time.

Sincerely,

John J. Finni

John J. Finni
Program Analyst

JJF:mek

Enclosures

DATA BASE DESCRIPTION — DEWEY DECIMAL CLASSIFICATION — SCHEDULE RECORDS

TAG	TAG NAME	DESCRIPTION	EXAMPLE(S)
me	Main entry	The classification number or number range which the rest of the record describes.	me 200.14 me 220.05$.08
met	Main entry text	The verbal description of the meaning of the last significant digit(s) of the classification number in the me tag.	me 200.71 met Schools and courses (This is a verbal description of the meaning of the digit "1" only. Other records contain the meaning of the 200.7 portion.)
ch	Centered heading	The classification number range which introduces some general remarks about some Main entries treated as a group.	ch 200.4$200.5
cht	Centered heading text	The verbal description of the meaning of the last significant digit(s) of the centered heading in the ch tag.	ch 220.1$220.9 cht General principles
smh	Summary heading	The field which identifies the record as a Summary record.	smh SUMMARY
smn	Summary number	Each of the Classification number-Text items in a Summary record. The textual portion is separated from the numeric portion by a delimiter (@) t.	smn 220.1@tOrigins and authenticity
n??	Notes	Comments on the Main entry, Centered Heading, or text which accompanies the Main entry or Centered Heading. There are over twenty individually tagged note types. A description of these is attached in separate documentation. (Cf. below for an explanation of Note subfielding.)	nrl @rClass in 220.4$220.5 nce @rClass comprehensive works in 220
srf	Schedule record from Full edition indicator	One of the system-supplied tags designed to indicate from which section of the Dewey classification the record comes.	srf Schedule-Full Ed. Other similar tags for other portions of the classification: sra Schedule-Abridged Ed. trf Table-Full Ed. tra Table-Abridged Ed. irf Index-Full Ed. ira Index-Abridged Ed.

TAG	TAG NAME	DESCRIPTION	EXAMPLES(S)
rno	Record number	The number assigned to each record as it enters the data base. The first digit is the same as the first digit of the me, ch, or numeric portion of the sm. The next five digits are sequence digits from 00001 on. The last two digits are always zeros in the initial conversion of the data base to allow room for later interpolation of records. We originally thought that this relatively simple, somewhat truncatable number would serve some use in searching, but no such use has been readily apparent in testing conducted thus far.	rno 20014500
isq	Index sequential number	The control number which will govern record deletion and replacement in editorial processing. This number, which is system-supplied, is structured as follows: Digits 1-6 : Date entered into system (in yymmdd format) Digits 7-10 : Time entered into system (in hhmm format, based on 24 hour clock) Digits 11-14: Sequence number for records entered at same date and time Digit 15 : Mod 9 check digit	isq 830803211701465

COMMENT ON NOTE SUBFIELDING

Each note begins with a subfield delimiter which indicates the typographic level at which the note sets. The following are legal values:

@r - Regular indention level
@m - Relative main entry indention level
@n - Note within Relative main entry indention level
@c - Cross reference note within Relative main entry indention level
@x - Regular cross reference note indention level
@t - Option table note indention level

Within Option table notes, there is usually a textual portion and a numeric portion, with the textual portion appearing first in the note. When this is the case, the numeric portion is separated from the textual portion by a @d.

EXAMPLE:

not Divinely inspired persons@d291.63

TYPES OF NOTES TO BE DISTINGUISHED

Preliminary comments:

1. In each of the distinctive strings given below, the presence or absence of upper case letters is significant to the string classification. If the upper case distinction is not significant, the letter is enclosed in parentheses.

2. It is understood that ALL indexes and/or subindexes are to be created for each note type. The column entitled REQUIRED INDEXING lists indexes or subindexes which are to be mandatory if at any future time it is necessary to curtail some types of access points.

3. The codes used in the REQUIRED INDEXING column are: kw=Keyword indexing; no=Numeric indexing; ft=Forward-truncated numeric indexing.

4. Whenever the word "None" appears in the REQUIRED INDEXING column, it is to be understood that access to these individual note types is still mandatory, even if it is at some future time necessary to eliminate any or all of the specific indexes (KW, NO, FT) to the note type.

NOTE TYPE	TAG	DISTINCTIVE STRINGS	REQ. INDEX.	COMMENTS
1. New schedule notes	nsn	completely new	None	
2. Phoenix schedule notes	npx	completely new and italicized	None	
3. Example notes	nex	Examples: or Example:	KW	
4. Former heading notes	nph	Former heading:	KW	
5. Including notes	nin	Including	KW	
6. Class here notes	nch	Class here	KW	
7. Alphabetic arrangement notes	nlp	Arrange alphabetically	KW	

NOTE TYP	TAG	DISTINCTIVE STRIN	REQ. INDEX.	COMMENTS
8. Optional provisions notes	nop	(I)f preferred or (I)f it is desired or (O)ptional or may be used	KW and NO	In Ed. 20, all option notes will be in parentheses.
9. Standard subdivisions table notes	nst	Notations from Table	None	
10. Standard subdivisions exceptions notes	nsx	Do not use or do not add "Standard	NO	
11. Use of more than one zero for standard subdivisions notes	nsz	for standard subdivisions	NO and FT	
12. Add notes	nad	(A)dd or extended meanings	KW, NO, FT	If the words "however, class" are in the note, also index the words and numbers following "however, class" in the nce (class elsewhere note) subindex; or, in the nrl (relocation note) subindex if the word "formerly" follows the words "however, class".
13. Citation notes	nco	Unless other instructions are given or priority in notation or table of precedence or unless otherwise instructed	KW and NO	
14. Discontinued numbers and topics notes	ndn	discontinued	KW and NO	
15. Relocation notes	nrl	formerly and Class or Class and [before class. no.	KW and NO	

NOTE TYPE	TAG	DISTINCTIVE STRING	REQ. INDEX.	COMMENTS
16. Most recent use notes	nru	Most recently used in	None	
17. Class elsewhere notes	nce	Class	KW, NO, FT	
18. Cross-reference notes	ncr	[Tagged as 5x in A.D. Little data base]	KW, NO, FT	
19. Introduction to table notes	nit	[Tagged as 26, 27, or 28 in A. D. Little data base]	KW, NO, FT	
20. Other types of notes	not	---	KW	Includes Scope notes, Definition notes, General concept notes.
21. See also notes	nsa	(S)ee also	KW, NO, FT	New type of note for Ed. 20.
22. ---	nrx	---	KW, NO, FT	This set of subindexes will access all notes which contain the word "formerly" in italics implying that the scope of a classification number has changed from what it was in a previous edition. The types of notes which may be affected are Example notes (nex), Including notes (nin), Class here notes (nch), Other types of notes (not), and all Relocation notes (nrl) whether or not they contain the word "formerly". Included also will be the relocation portion of Add notes (nad; cf. above) and any numbers in the text explaining the classification number which are preceded

NOTE TYP	TAG	DISTINCTIVE STRIP	REQ. INDEX.	COMMENTS
22. (Cont'd)				by the word "formerly". NOTE: All of the notes indexed in this special subindex will be indexed in their own specific subindexes as well.
23. ---	nmt	---	NO and FT (There is no KW index for this field.)	This set of numeric subindexes will access the numbers in the text explaining the classification number which are preceded by the word "formerly".
FOOTNOTES				
1. Add as instructed under footnotes	nfa	as instructed	NO*	
2. Class as instructed under footnotes	nfc	as instructed under and Class	NO*	*If it is necessary to decrease the indexing, all of the footnotes may be indexed or subindexed together under the numeric index only.
3. Option footnotes	nfo	is optional and prefer	NO*	
4. Use of more than one zero in standard subdivisions footnotes	nfz	Use and 0	NO*	
5. Other types of footnotes	nfx	---	NO*	

200 Religion

Beliefs, attitudes, practices of individuals and groups with respect to ultimate nature of existence and relationships within context of revelation, deity, worship

Class here religious mysticism, comprehensive works on Christianity

Class comparative religion, works dealing with various religions in 291

The following options give preferred treatment to, or make available more and shorter numbers for the classification of, any specific religion other than Christianity that it is desired to emphasize. Full instructions appear under each number

A. Class in 230–280, with scriptures in 220
B. Class in 210 or 291
C. Class in 298, which is permanently unassigned
D. Give preferred treatment by placing before 220, 291 or 292 through use of a letter or other symbol. Full instructions appear under 292–299

.1 **Philosophy and theory**

Origin, nature, validity of religious beliefs

.14 **Religious language**

Nature of religious discourse

.19 **Psychological aspects**

Including religious experience based on use of psychedelic drugs

.2–.3 **Standard subdivisions**

Notations from Table 1

[.4] **Mythology and mythological foundations**

Class in 291.13

.5–.6 **Standard subdivisions**

Notations from Table 1

.7 **Study and teaching**

.71 **Schools and courses**

Class religious instruction and exercises in nonsectarian schools in 377.1

.8 **Religion among groups of persons**

.9 **Historical and geographical treatment of religion and religious thought**

Religious situation and conditions

Class historical and geographical treatment of a specific religion with the subject, e.g., history of Judaism 296.09

.901 **To 499 A.D.**

[.901 1] **Prehistoric religions and religions of nonliterate peoples**

Class in 291.042

BEST COPY AVAILABLE

APPENDIX C. UNIT RECORDS OF DDC NUMBERS RANGING FROM 200 TO 210


```
lsq830603211700014
rno20000100
se200
setReligion
noterBeliefs, attitudes, practices of individuals and
groups with respect to ultimate nature of existence and
relationships within context of revelation, deity,
worship
ncherClass here religious mysticism, comprehensive works on
Christianity
nceerClass comparative religion, works dealing with various
religions in 291
noperThe following options give preferred treatment to, or
make available more and shorter numbers for the
classification of, any specific religion other than
Christianity that it is desired to emphasize. Full
instructions appear under each number
nceemA. Class in 230@280, with scriptures in 220
nceemB. Class in 210 or 291
nceemC. Class in 288, which is permanently unassigned
notemD. Give preferred treatment by placing before 220, 291
or 292 through use of a letter or other symbol. Full
instructions appear under 2920299
erfSchedule-Full Ed.
\\

lsq830603211700022
rno20000200
se200.1
setPhilosophy and theory
noterOrigin, nature, validity of religious beliefs
erfSchedule-Full Ed.
\\

lsq830603211700030
rno20000300
se200.14
setReligious language
noterNature of religious discourse
erfSchedule-Full Ed.
\\

lsq830603211700047
rno20000400
se200.19
setPsychological aspects
ninerIncluding religious experience based on use of
psychedelic drugs
erfSchedule-Full Ed.
\\

lsq830603211700055
rno20000500
se200.29.3
setStandard subdivisions
noterNotations from Table 1
erfSchedule-Full Ed.
\\

lsq830603211700063
rno20000600
se200[.4]
setMythology and mythological foundations
nrlerClass in 291.13
erfSchedule-Full Ed.
\\
```

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```
lsq830803211700071
rno20000700
se200.58.6
setStandard subdivisions
noteNotations from Table 1
erfSchedule-Full Ed.
\\

lsq830803211700088
rno20000800
se200.7
setStudy and teaching
erfSchedule-Full Ed.
\\

lsq830803211700096
rno20000900
se200.71
setSchools and courses
nceerClass religious instruction and exercises in
nonsectarian schools in 377.1
erfSchedule-Full Ed.
\\

lsq830803211700103
rno20001000
se200.8
setReligion among groups of persons
erfSchedule-Full Ed.
\\

lsq830803211700111
rno20001100
se200.9
setHistorical and geographical treatment of religion and
religious thought
noteeReligious situation and conditions
nceerClass historical and geographical treatment of a
specific religion with the subject, e.g., history of
Judaism 296.09
erfSchedule-Full Ed.
\\

lsq830803211700128
rno20001200
se200.901
setTo 499 A.D.
erfSchedule-Full Ed.
\\

lsq830803211700136
rno20001300
se200[.901 1]
setPrehistoric religions and religions of nonliterate
peoples
nrierClass in 291.042
erfSchedule-Full Ed.
\\
```

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```
isq830803211700144
rno20001400
ch201$209
chtStandard subdivisions of Christianity
nce=rClass comprehensive works in 200
srfSchedule-Full Ed.
\\

isq830803211700152
rno20001500
me201
metPhilosophy and theory of Christianity
noter=Nature, origin, validity of Christian beliefs
srfSchedule-Full Ed.
\\

isq830803211700160
rno20001600
me201[.1]
metChristian theology
nrler=Class in 230
srfSchedule-Full Ed.
\\

isq830803211700177
rno20001700
me202
metMiscellany of Christianity
srfSchedule-Full Ed.
\\

isq830803211700185
rno20001800
me203
metDictionaries, encyclopedias, concordances of
Christianity
srfSchedule-Full Ed.
\\

isq830803211700193
rno20001900
me204
metSpecial topics of general applicability
srfSchedule-Full Ed.
\\

isq830803211700200
rno20002000
me204.5
metChristian mythology
nce=rClass Apocrypha and pseudepigrapha in 229
srfSchedule-Full Ed.
\\

isq830803211700217
rno20002100
me205
metSerial publications of Christianity
srfSchedule-Full Ed.
\\

isq830803211700225
rno20002200
me206
metOrganizations of Christianity
nce=rClass Christian church in 260
```

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```
erfSchedule-Full Ed.
\\

leq830603211700233
rno20002300
se207
setStudy and teaching of Christianity
nce#rClass Christian training and instruction in Sunday
schools, church schools, vacation Bible schools, under
other church auspices in 268
erfSchedule-Full Ed.
\\

leq830603211700241
rno20002400
se207.1
setSchools and courses
erfSchedule-Full Ed.
\\

leq830603211700258
rno20002500
se207.1018.103
setIn areas, regions, places in general; in ancient world
erfSchedule-Full Ed.
\\

leq830603211700266
rno20002600
se207[.1048.109]
setIn specific continents, countries, localities in modern
world
nex#rDo not use; class in 207.48207.9
erfSchedule-Full Ed.
\\

leq830603211700274
rno20002700
se207.11
setColleges and universities
nade#rAdd to base number 207.11 the numbers following 28 in
280.28289.9, e.g., Roman Catholic seminaries and courses
207.112
nce#rClass colleges and universities regardless of
denomination in areas, regions, places in general in
207.101; in ancient world in 207.103; in specific
continents, countries, localities in modern world in
207.48207.9 (not 207.1148207.119)
erfSchedule-Full Ed.
\\

leq830603211700282
rno20002800
se207.12
setSecondary schools
nade#rAdd to base number 207.12 the numbers following 28 in
280.28289.9, e.g., Adventist secondary training schools
and courses 207.1287
nce#rClass secondary schools regardless of denomination in
areas, regions, places in general in 207.101; in ancient
world in 207.103; in specific continents, countries,
localities in modern world in 207.48207.9 (not
207.1248207.129)
erfSchedule-Full Ed.
```

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```
\\

leq830803211700290
rno20002900
se207.3
setOther educational aspects
ned#rAdd to base number 207.3 the numbers following 07 in
"'"Standard Subdivisions" notation 0728079 from Table
1, e.g., museums, collections, exhibits on Christianity
207.34
erfSchedule-Full Ed.
\\

leq830803211700306
rno20003000
se207.48.9
setSchools and courses in specific continents, countries,
localities in modern world
note#rColleges, universities, secondary schools
nch#rClass here specific schools and courses
ned#rAdd "'"Areas" notation 489 from Table 2 to base
number 207
nce#rClass miscellaneous educational aspects in 207.3
erfSchedule-Full Ed.
\\

leq830803211700314
rno20003100
se208
setChristianity among groups of persons
erfSchedule-Full Ed.
\\

leq830803211700322
rno20003200
se209
setHistorical and geographical treatment of Christianity
and Christian thought
nce#rClass historical and geographical treatment of
organized Christian church in 270
erfSchedule-Full Ed.
\\

leq830803211700330
rno20003300
se210
setNatural religion
note#rReligious beliefs and attitudes attained through
observation and interpretation of evidence in nature,
through speculation, through reasoning, but not through
revelation
nop#r(if it is desired to give local emphasis and a shorter
number to a specific religion other than Christianity,
it is optional to class it in this number, and to add to
base number 21 the numbers following the base number for
that religion in 292-299, e.g., Hinduism 210,
Mahabharata 219.23; in that case class natural religion
in 200, its subdivisions in 201-209, standard
subdivisions of Christianity in 200.1-200.9, standard
subdivisions of religion in 200.01-200.09. Other options
are described under 200)
nce#rClass a specific topic in a specific religion with the
religion, e.g., Christian concepts of God 231
erfSchedule-Full Ed.
```

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200 Religion
orBeliefs, attitudes, practices of individuals and groups with respect to ultimate nature of existence and relationships within context of revelation, deity, worship;
seeD. Give preferred treatment by placing before 220, 291 or 292 through use of a letter or other symbol. Full instructions appear under 292$299;

201 Philosophy and theory of Christianity
orNature, origin, validity of Christian beliefs;

202 Miscellany of Christianity

203 Dictionaries, encyclopedias, concordances of Christianity

204 Special topics of general applicability

205 Serial publications of Christianity

206 Organizations of Christianity

207 Study and teaching of Christiantiy

208 Christianity among groups of persons

209 Historical and geographical treatment of Christiantiy and Christian thought

****
This concludes section 200 to 209.
****

D

200 Religion
erBeliefs, attitudes, practices of individuals and groups with respect to ultimate nature of existence and relationships within context of revelation, deity, worship;
enD. Give preferred treatment by placing before 220, 291 or 292 through use of a letter or other symbol. Full instructions appear under 292S299;

200.1 Philosophy and theory
erOrigin, nature, validity of religious beliefs;

200.2S.3 Standard subdivisions

200[.4] Mythology and mythological foundations

200.5S.6 Standard subdivisions

200.7 Study and teaching

200.8 Religion among groups of persons

200.9 Historical and geographical treatment of religion and religious thought
erReligious situation and conditions;

****
This concludes section 200 to 200.9.
****

200.1 Philosophy and theory
erOrigin, nature, validity of religious beliefs;

200.14 Religious language
erNature of religious discourse;

200.19 Psychological aspects
erincluding religious experience based on use of psychedelic drugs;

****
This concludes section 200.1 to 200.19.
****

200.7 Study and teaching

200.71 Schools and courses

****
This concludes section 200.7 to 200.79.
****

200.9 Historical and geographical treatment of religion and religious thought
erReligious situation and conditions;

200.901 To 499 A.D.

200[.901 1] Prehistoric religions and religions of nonliterate peoples

****
This concludes section 200.90 to 200.909.
****

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201 Philosophy and theory of Christianity
erNature, origin, validity of Christian beliefs;

201[.1] Christian theology

****
This concludes section 201 to 201.9.
****

204 Special topics of general applicability

204.5 Christian mythology

****
This concludes section 204 to 204.9.
****

207 Study and teaching of Christianity

207.1 Schools and courses

207.3 Other educational aspects

207.45.9 Schools and courses in specific continents, countries, localities in modern world
erColleges, universities, secondary schools;

****
This concludes section 207 to 207.9.
****

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207.1 Schools and courses

207.11 Colleges and universities

207.12 Secondary schools

****
This concludes section 207.1 to 207.19.
****

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207.1 Schools and courses

207.101$.103 In areas, regions, places in general; in ancient world

207[.104$.109] In specific continents, countries, localities in modern world

****
This concludes section 207.10 to 207.109.
****

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APPENDIX E. AGENDA FOR JANUARY 25 AND 26 MEETING

January 25, 1984

9:00-10:00: Gathering of all participants at 9 a.m., Room 507, Madison Building, Decimal Classification Division, Library of Congress, Washington, DC

Introduction of participants

1. Overview of Research Project (Presentation by K. Markey)
   Note: Please bring September 1983 proposal and October 1983 addendum to the proposal. Please bring your questions about the project and its activities for this Overview.

10-11:45:

2. Selection of classification areas for study at each library. (Discussion led by K. Markey; participants from 4 libraries)

3. Characteristics of each library's bibliographic records that the OCLC Project Team should know about. For example, maximum length of DDC numbers, DDC editions used for classifying records, variations of library's machine-readable cataloging records from MARC/LC or MARC/OCLC format.

   - We need to set target dates for the receipt of each library's bibliographic records and supporting documentation.

11:45-1:15: Lunch (6th Floor Buffet at Library of Congress Madison Building)

1:15-2:00

4. Walkthrough Materials in Packet (Discussion led by K. Markey; all participants)
   Note: We will review the materials in the packet, page by page, and handle questions about clarification of their content.

2-4:45: 5. Issues concerning the implementation of the DDC online as a user's tool for subject access, browsing, and display in an online catalog. (Brainstorming session led by P. Cochrane; all participants)

We will explore the following 4 issues:

a. What user actions induce online displays of the DDC schedule and index?

b. How can the DDC be best indexed to respond to users' actions?

c. How can users manipulate the DDC online?

d. What do online displays of the DDC (schedules and relative index) look like?

2-4:45: 5. (Continued)
Aspects of these 4 issues which will be covered are:

- Should we include entire DDC Relative Index in the experimental online catalog and retrieval tests or only load those parts corresponding to the classification area(s) selected by each library? (Issues: b)

- Should DDC numbers be maintained in online displays of the DDC schedule or index? (c,d)

- Should "formerly" DDC numbers be maintained in online displays of the DDC schedule? (c,d) What if there are books classed in both numbers (i.e., old and new)? (c,d)

- Should we keep all subject-rich text of the DDC schedules in online displays? (b,d) If all subject-rich text is kept, some displays will exceed 2 screens. (c)

- If all subject-rich text is kept in DDC schedule displays, how should we label note fields? (d) How should we label note fields when more than 1 note appears per heading? (d)

- Can we simplify table references (page 45)? (d) Or should we let users try to match LCSH geographic headings or subheadings through the Combination LCSH-DDCRI Strategy (pages 28-32)? (b,d)

- When brackets are used in "main entry text" fields (i.e., headings) to indicate "formerly" references, should we delete the data in brackets? (See Schedule number 211.2) (d)

- Should we display headings from the DDC schedules that have ∅ postings, i.e., no books have been assigned the DDC number in that library? What if there are books assigned to a DDC number (and heading) on the next level of the DDC hierarchy? For example, 201.1 has ∅ postings, and 201.11 has 58 postings. (d)

- How can we designate to users that there are more screens in lower levels of the DDC hierarchy? (c,d) For example, the user looks at headings 201, 202, 203, and so on; how does he know that there is a 201.1?

- How much should we indent headings and other subject-rich data in displays of the DDC schedules? (d)

- Will the text of DDC headings be understandable to users, e.g., "Standard Subdivisions?" Do we have to edit selected headings? (b, d)

- Should DDCRI entries maintain indentions (as in printed Relative Index) or be separated by a symbol such as / or ;? (d)

- Should secondary Relative Index entries and LCSH subdivisions be separated into secondary screens linked to the first by prompts? (c,d)

- Should postings (number of books) be included in browse displays of DDC schedule captions or DDC Relative Index entries? (d)

- Should abbreviations in DDCRI be spelled out in online displays? (b,d)

- How can we (automatically) identify "not" (general notes) fields that do not have subject-rich information (see 200, pg. 21)? (b,d)

- In online catalog searches, when will DDC browse displays of the schedule and index (such as the ones from pages 25-36) be most helpful to users in their ongoing search? (a,b) What are the characteristics of users' input terms that will trigger such displays? (a,b)

- When users retrieve 1 classification area in a keyword search (pages 34-35), should the resulting display of the DDC schedule be the same level of the hierarchy, narrower level, or broader level? (a,d) What if there is no narrower level?

- When users retrieve more than 1 classification area in a keyword search (pages 33-34), how many levels of the hierarchy should be displayed (in the form of DDC captions)? (a,d)

- Are there other strategies for searching the DDC that we have not considered? (a,b)

January 26, 1984

9-11:45: 5. Continuation of Brainstorming session led by P. Cochrane.

11:45-1:15 Lunch (6th Floor Buffet at LC Madison Building)

1:15-4:00

6. Resolution and/or Closure on aspects of the 4 issues listed in Agenda Item #5. (Discussion directed by L. Chan; all participants)

   Note: If brainstorming wanes early in morning, we could move on to this Agenda Item before lunch. Let's try to reach closure or resolve aspects of the 4 issues or prioritize our options for resolving aspects (before we adjourn).

4-4:15 7. Have we missed anything? Final opportunity to ask questions!

4:15+ Have a safe trip home.

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APPENDIX F. OCLC PRESS RELEASE

FOR IMMEDIATE RELEASE

FOR MORE INFORMATION CALL:

Phil Schieber (614) 764-6144

CLR Awards Forest Press, OCLC $94,350 for Study of Dewey Classification as Online Tool

DUBLIN, OHIO, January 19--The Council on Library Resources, Inc., has awarded a $94,350 grant to the Forest Press Division of Lake Placid Education Foundation and OCLC Online Computer Library Center for research into "The Dewey Classification as an Online Searcher's Tool for Subject Access, Browsing and Display in an Online Public Access Catalog."

Forest Press, publishers of the Dewey Decimal Classification, and OCLC's Office of Research will explore the significance and value of classification in the information retrieval environment of online catalogs. Forest Press is contributing $55,000 to the project; OCLC is contributing computing facilities and overhead valued at $137,511 and $17,385 in funds. With the CLR grant the total research project is budgeted at $304,246. The four-phase project began January 1, 1984 and runs through September 1985.

(more)

"This ambitious research project will help explore the Dewey Decimal Classification to enhance subject access in online public access catalogs so that they will be more responsive to library patrons' needs," said OCLC President Rowland C. W. Brown. "The Council on Library Resources, Forest Press and OCLC are working together on an important new tool for library patrons, catalogers, classifiers and libraries in general."

John A. Humphry, Executive Director of Forest Press, said: "Forest Press has long recognized the need to investigate through a computer-assisted operation the value of the Dewey Decimal Classification's hierarchical subject structure in searching and browsing through bibliographic information. This project should advance the commitment of the Press and also prove the value of classification as a subject search mechanism. Forest Press, as a division of an educational foundation, is pleased to work with the staffs of both OCLC and the Council on Library Resources in this joint venture."

Warren J. Haas, President of CLR, said: "The Council is eager to see this project thoroughly explore the degree to which the Dewey Classification can be used as a subject search enhancement in the context of online catalogs. We are pleased to see this cooperative effort pursued by Forest Press and OCLC."

Principal Investigator for the project is OCLC Research Scientist Karen Markey. According to Dr. Markey, the project initially will use expert opinion to arrive at a consensus about selection of Dewey Decimal Classification (DDC) fields and text for subject access, browsing and display in an online public

access catalog. The second phase will demonstrate the DDC as an online searcher's tool by building the DDC into an experimental online catalog, and the third phase will involve library patrons and staff in a test of the tool's effectiveness. An evaluation of the DDC as a user's tool in an online catalog demonstration and dissemination of results of the project make up the final phase. CLR will host a special working conference on "Classification Online" at the end of the project to help disseminate the project's findings and explore crucial issues for the use of classification in online catalogs.

"In American libraries classification has been relegated to catalogers behind closed doors of technical processing departments," said Dr. Markey. "Our research is going to open those doors." According to Dr. Markey, classification has been chiefly visible to library users as a device for shelf arrangement of library materials. In an online public access catalog environment the DDC can be the library user's tool for subject access, browsing and display. "Incorporating the DDC into information retrieval in an online public access catalog opens up new possibilities," she said. "A classed approach to subject searching of library collections goes beyond our current online catalog search strategies of employing an alphabetical approach of subject headings or keyword searching. I think library patrons are going to have a powerful new tool."

OCLC Online Computer Library Center is a not-for-profit library computer service and research organization based in Dublin, Ohio. OCLC operates an international computer network that libraries use to acquire and catalog books, order custom-printed catalog cards, arrange interlibrary loans, and

maintain location information on library materials. OCLC serves more than 4,000 member libraries and over 6,000 libraries through processing centers and resource-sharing programs.

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DEWEY DECIMAL CLASSIFICATION ONLINE PROJECT:

INTERIM REPORT TO THE COUNCIL ON LIBRARY RESOURCES

September 1984

by

Karen Markey
Principal Investigator
and
Anh N. Demeyer
Senior Programmer/Analyst
with the research assistance of
Jeffrey L. Gerckens and Steven J. Shute,
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10. Order of and Field Labels in DOC Bibliographic Record Display for LC Records 17

BACKGROUND

The Dewey Decimal Classification (DDC) Online Project supported by the Council on Library Resources focuses on implementing and testing the DDC as an online searcher's tool for subject access, browsing, and display in an online catalog. The machine-readable DDC that is used in this research project was converted from the print tapes that originally served to produce the 19th edition of the printed DDC using computerized photocomposition. Two features of the DDC will be employed to aid online catalog searchers to match their subject terminology with an online catalog's terminology: (1) the subject terminology in the DDC Schedules (e.g., headings, scope notes, class here notes, including notes, etc.) and the DDC Relative Index, and (2) the hierarchical arrays of related terminology in the DDC Schedules. Through these subject terminologies, online catalog users will have much more subject information than is presently available in online catalogs, i.e., subject headings and title terms from bibliographic records, with which to match their search terms and to browse for better terms to express their topics.

In the research project, these two subject terminologies will be incorporated into an online catalog as searchers' tools for subject access, browsing, and display. The effectiveness of this DDC in an online catalog will be tested in online retrieval experiments with library patrons and staff at the Library of Congress, New York State Library, Public Library of Columbus and Franklin County (Ohio), and University of Illinois at Urbana-Champaign.

The research effort requires twelve activities. These activities are depicted in flowchart form in Figure 1. At the present time, the DDC Online Project Team is in the middle of activity 6, i.e., designing, testing, and implementing software to provide subject access, browsing, and display of the DDC in the experimental online catalogs. The discussion in this report is organized according to the three activities, i.e., activities 4, 5, and 6, on which the DDC Online Project Team has worked during the granting period April 1984 to September 1984.

ACTIVITY 4

Obtain participating libraries' bibliographic records in classification areas of interest.

To date, bibliographic records from all four participating libraries have been received. From some libraries, documentation on the records' format has been conveyed verbally to the DDC Online Project Team. Consequently and unfortunately, the Project Team has encountered difficulties with a library's records as the records are loaded and indexed into the experimental online catalogs. Information about the receipt of libraries' bibliographic records is as follows:

1. University of Illinois at Urbana-Champaign (UI)
   Class areas: 510-519 (Mathematics) and other areas
   Number of records: 14,949
   Received: May 22, 1984
   Format: Standard OCLC/MARC communications format (but in EBCDIC)

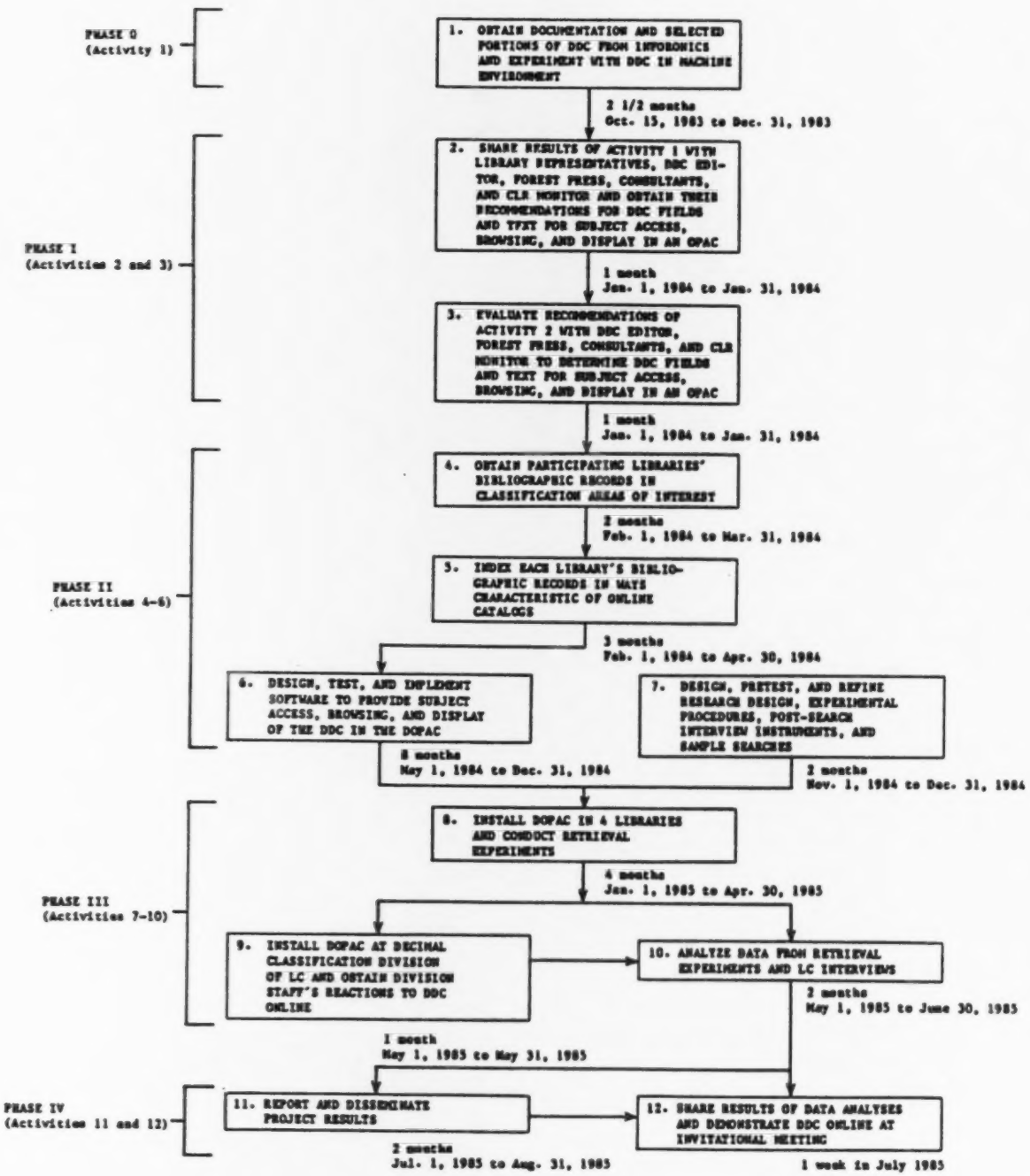
PHASE 0
(Activity 1)
1. OBTAIN DOCUMENTATION AND SELECTED PORTIONS OF DDC FROM INFORONICS AND EXPERIMENT WITH DDC IN MACHINE ENVIRONMENT
2 1/2 months
Oct. 15, 1983 to Dec. 31, 1983
PHASE I
(Activities 2 and 3)
2. SHARE RESULTS OF ACTIVITY 1 WITH LIBRARY REPRESENTATIVES, DDC EDITOR, FOREST PRESS, CONSULTANTS, AND CLR MONITOR AND OBTAIN THEIR RECOMMENDATIONS FOR DDC FIELDS AND TEXT FOR SUBJECT ACCESS, BROWSING, AND DISPLAY IN AN OPAC
1 month
Jan. 1, 1984 to Jan. 31, 1984
3. EVALUATE RECOMMENDATIONS OF ACTIVITY 2 WITH DDC EDITOR, FOREST PRESS, CONSULTANTS, AND CLR MONITOR TO DETERMINE DDC FIELDS AND TEXT FOR SUBJECT ACCESS, BROWSING, AND DISPLAY IN AN OPAC
1 month
Jan. 1, 1984 to Jan. 31, 1984
PHASE II
(Activities 4-6)
4. OBTAIN PARTICIPATING LIBRARIES' BIBLIOGRAPHIC RECORDS IN CLASSIFICATION AREAS OF INTEREST
2 months
Feb. 1, 1984 to Mar. 31, 1984
5. INDEX EACH LIBRARY'S BIBLIOGRAPHIC RECORDS IN WAYS CHARACTERISTIC OF ONLINE CATALOGS
3 months
Feb. 1, 1984 to Apr. 30, 1984
6. DESIGN, TEST, AND IMPLEMENT SOFTWARE TO PROVIDE SUBJECT ACCESS, BROWSING, AND DISPLAY OF THE DDC IN THE DOPAC
8 months
May 1, 1984 to Dec. 31, 1984
7. DESIGN, PRETEST, AND REFINE RESEARCH DESIGN, EXPERIMENTAL PROCEDURES, POST-SEARCH INTERVIEW INSTRUMENTS, AND SAMPLE SEARCHES
2 months
Nov. 1, 1984 to Dec. 31, 1984
PHASE III
(Activities 7-10)
8. INSTALL DOPAC IN 4 LIBRARIES AND CONDUCT RETRIEVAL EXPERIMENTS
4 months
Jan. 1, 1985 to Apr. 30, 1985
9. INSTALL DOPAC AT DECIMAL CLASSIFICATION DIVISION OF LC AND OBTAIN DIVISION STAFF'S REACTIONS TO DDC ONLINE
10. ANALYZE DATA FROM RETRIEVAL EXPERIMENTS AND LC INTERVIEWS
2 months
May 1, 1985 to June 30, 1985
1 month
May 1, 1985 to May 31, 1985
PHASE IV
(Activities 11 and 12)
11. REPORT AND DISSEMINATE PROJECT RESULTS
12. SHARE RESULTS OF DATA ANALYSES AND DEMONSTRATE DDC ONLINE AT INVITATIONAL MEETING
2 months
Jul. 1, 1985 to Aug. 31, 1985
1 week in July 1985

Figure 1. Flowchart of project activities

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2. Library of Congress (LC)
   Class areas: 330-339 (Economics); 380-382 (Commerce); 658 (Management)
   Number of records: 11,873
   Received: March 22, 1984
   Format: Standard LC/MARC communications format

3. Public Library of Columbus and Franklin County (PLCFC)
   Class areas: 790-799 (Recreation and Performing Arts)
   Number of records: 9,774
   Received: July 18, 1984
   Format: Standard OCLC/MARC communications format is anticipated; printouts of 300 records from beginning, middle, and end of the tape provided.

4. New York State Library (NYSL)
   Class areas: 917.47 (New York State Geography); 973.1-973.2 (United States Colonial History); 974 (New York State History)
   Number of records: 14,426
   Received: March 22, 1984
   Format: Standard OCLC/MARC communications format with deviations from that format provided in writing by the library.

ACTIVITY 5

Index each library's bibliographic records in ways characteristic of online catalogs.

The OCLC/MARC communications format was studied for the selection of fields for indexing and display in the experimental online catalogs. The DDC Online Project Team consulted lists of indexed fields and subfields compiled by Mankato State University (and accessible to Mankato State online catalog users through the entry of the "HELP INDEX" command), by Karen Markey in her book entitled Subject Searching in Library Catalogs (Dublin, OH: OCLC, 1984, pp. 158-162), and by OCLC Local Systems Division staff for profiling libraries' bibliographic records in LS/2000. As fields and subfields were selected, it was necessary to identify the type of index into which the field and subfield data would be processed and the name of the field and subfield data which would be displayed in bibliographic records.

The DDC Online Project Team wanted to obtain reactions from representatives from the four participating libraries, Decimal Classification Division (DCD) staff, and project consultants regarding types of indexes, fields for indexing and display, and the overall process of searching the experimental online catalogs. It was determined that a prototype of the experimental online catalogs accessible by dial-up terminals would provide all project participants with an opportunity to advise the DDC Online Project Team about indexing, display, and the search process.

The DDC Online Project Team selected OCLC's Sigma CP-V mainframe computing resources and APL programming language as a suitable environment and vehicle for developing the prototype. The prototype was designed, developed, tested, and implemented in Spring 1984. The prototype was merely an online emulation

of the experimental online catalogs that would be developed later on the LSI-11 microprocessor. Only three sample search topics were available: (1) Conversion; (2) Ball Games; and (3) Mother Mary and Jesus. Bibliographic records were "real" records from online catalogs; however, bibliographic records, DDC Schedules, LC subject headings, and DDC Relative Index entries were entered manually into the prototype. That is, no data from Inforonics or participating libraries were processed into the prototype.

In May 1984, representatives of participating libraries, Dewey Classification Division staff of LC, and project consultants were informed of the prototype through a lengthy sample search, and of the protocol for signing onto CP-V and APL using dial-up terminals through lengthy instructions. Some participants studied the sample searches and accessed the online prototype; others only studied the sample searches. Appendixes A and B contain examples of the prototype for the search Ball Games in the experimental online catalog without the DDC as a user's tool and with the DDC as a user's tool, respectively.

The response to the APL prototype, particularly from project consultants and participants from the Library of Congress, was overwhelming and forced the DDC Online Project Team to examine decisions about indexing, display, and the search process. Consultant Lois Chan visited OCLC on April 26 and 27, 1984 to learn firsthand of the DDC Online Project Team's design of the experimental online catalogs and to advise the team about indexing and displaying bibliographic records and searching the catalogs. Consultant Pauline Cochrane responded to printouts of searches of the APL prototype in a lengthy written response. The DDC Online Project Team compiled a list of critical design issues and travelled to the Library of Congress on June 14, 1984 to discuss these issues with consultant Pauline Cochrane and to resolve them.

ACTIVITY 6

Design, test, and implement software to provide subject access, browsing, and display of the DDC in the experimental online catalogs.

Our discussions with consultant Cochrane focused on the contents of the indexes in the experimental online catalogs SOC and DOC, displaying bibliographic records, and the search process. (SOC refers to Subject Online Catalog, i.e., the experimental online catalog without the DDC as a user's tool for subject access, browsing, and display; DOC refers to the Dewey Online Catalog, i.e., the experimental online catalog with the DDC as such a user's tool.)

Searching SOC

Our early plans called for SOC to respond in one of two ways to user-entered subject access points: (1) if the access point matched indexed, assigned subject headings, i.e., contents of 6XX fields of bibliographic records, SOC responded to the user with a list of subject headings in the alphabetical "neighborhood" of the entered term; or (2) if the access point did not match assigned subject headings, SOC would automatically perform a keyword search on the user-entered terms and respond to the user with the number of bibliographic records containing the user's terms. In the first approach, alphabetical lists

of terms are constructed from the contents of subject heading, i.e., 6XX, fields in bibliographic records. In the second approach, keyword searches of title, subject heading, series, and selected note fields are performed.

The subject searching scenario of SOC has changed since our initial design of this experimental catalog. The process of SOC searching is evident in the menus of options for SOC searchers in Figure 2. Except for menu box 1 in Figure 2, the options listed in the menu boxes appear on the bottom of the screen to inform the user of possible next options. SOC users can only select from the menu of options listed to further the action of the search. Menu box 1 in Figure 2 (except for the Review Sets (RS) option) is the screen first encountered by SOC searchers.

When a SOC user begins his search, he has a choice of performing a search alphabetically (SA), i.e., obtaining a list of alphabetically arranged subject headings in response to an entered subject access point, of performing a search directly (SD), i.e., obtaining a report of the number of citations containing his entered access points, or of performing a call number search (Figure 2, menu box 1). Thus, the SOC user is confronted with the following options when initiating a search in SOC:

SA Search alphabetically for subject
SD Search directly for subject
SC Search for call number
ES End search

Should a SOC user select option SA, search alphabetically for subject, and enter a subject access point that is not indexed in the system, SOC still responds to the user with a list of alphabetically arranged subject headings and a message indicating where the user's term would have been listed had it been indexed in SOC. The SOC user can browse backward or forward in this list of subject headings, select option SL to display bibliographic records containing one or more of the listed headings, or select option SD to search directly for the terms just entered using the SA option (Figure 2, menu box 2). A SOC user who selects option SD does not need to reenter his search terms; rather, SOC has retained these terms and automatically performs a keyword search of bibliographic records' title, subject, selected note, and series fields for these terms. SOC responds to the searcher with a report of the number of records retrieved; the user can then select option SL to display retrieved bibliographic records or option SO to start over and enter new subject access points into the Subject Online Catalog (Figure 2, menu box 3).

SOC allows users to enter Dewey Decimal Classification numbers with the option SC, i.e., search for call number. SOC treats the class number as if it had been truncated, and, thus, retrieves records with the exact class number entered and class numbers beginning with the entered number. For example, the user inputting the class number 248.2 retrieves records assigned classification numbers 248.2 and 248.2460924.

The column entitled "Record Fields and Subfields" in Table 1 lists OCLC/MARC record fields and subfields selected for indexing and/or displaying in the

Subject Online Catalog. (Disregard lines 42 to 44, which are only used for DOC.) The column entitled "SOC Index Name" indicates the SOC index into which the contents of listed fields and subfields are processed. For example, the contents of 650 fields, in particular a, b, x, y, and z subfields, are processed into indexes for searching alphabetically (SA) and searching directly (SD). The column entitled "Display Name" indicates the name of the data in the listed fields and subfields when the data is displayed in bibliographic records. For example, data in the 260 fields, in particular a, b, and c subfields, are not processed into any searchable indexes but are displayed in a field labeled "PUBLISHER" in bibliographic record displays.

Figure 3 lists the field labels in the order of their appearance in a SOC bibliographic record display for records from the University of Illinois at Urbana-Champaign libraries, New York State Library, and the Public Library of Columbus and Franklin County. Figure 4 lists the field labels in the order of their appearance in a SOC bibliographic record display for records from the Library of Congress. Note that both LC classification and Dewey Decimal Classification numbers are listed because books are labeled and shelved at LC with LC classification numbers. Examples of University of Illinois' records displayed in SOC are given in Appendix C.

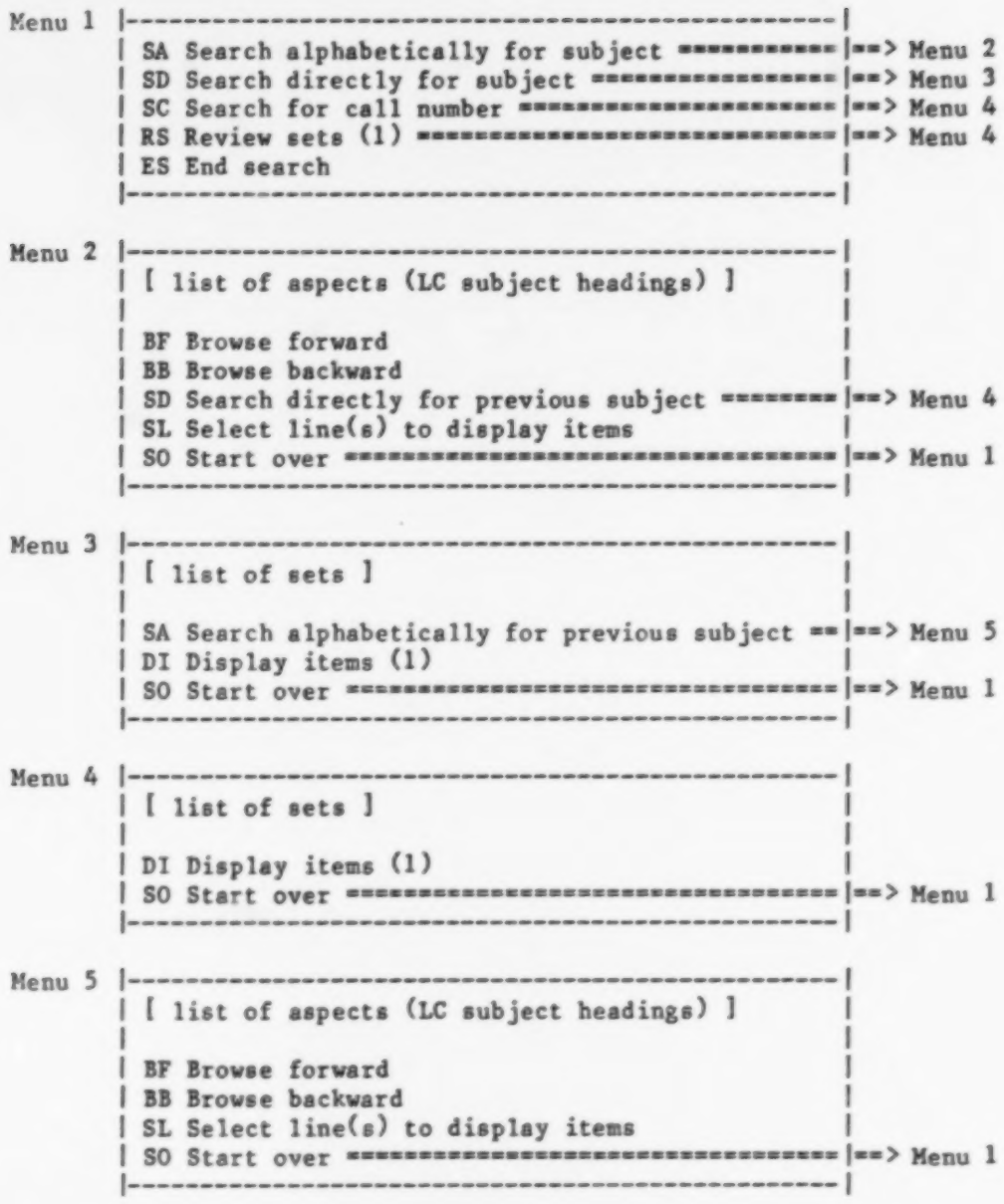
Figure 5 is an actual list of assigned subject headings that result from the user-entered access point "Haar Integral" and the SA (search alphabetically for subject) option in SOC.

Consultant Cochrane, Anh Demeyer, and Karen Markey agreed that both DOC and SOC would support only subject searches. Known-item searches, such as title, author, or author/title searches, are not available in either DOC or SOC. We also agreed on changes to searching in the Dewey Online Catalog (DOC) in view of reactions from the Decimal Classification Division staff, consultants, Library of Congress, and other participating libraries' representatives.

Table 1. OCLC/MARC Fields and Subfields for Indexing and Displaying in the Experimental Online Catalogs

GENERAL FIELD NAME	RECORD FIELDS AND SUBFIELDS	DISPLAY NAME	SOC INDEX NAME	DOC INDEX NAME
1. CALL NUMBER	099 a / 092 a,b / 082 a	Call number	------	------
2. AUTHOR	100 a,q,b,c,d,	Author	------	------
3. AUTHOR	110 a,q,b,n,d,c,	Author	------	------
4. SPONSOR	111 a,q,b,n,d,c,e	Sponsor	sd	ss
5. UNIFORM TITLE	130 a,t,n,p,s	Alternate title	sd	ss
6. OTHER TITLE	240 a,p,s	Alternate title	sd	ss
7. OTHER TITLE	241 a	Alternate title	sd	ss
8. OTHER TITLE	242 a,b	Alternate title	sd	ss
9. TITLE	245 a,b,n,p	Title	sd	ss
10. PUBLISHER	260 a,a,b,b,c	Publisher	------	------
11. SERIES TITLE	400 t	------	sd	ss
12. SERIES TITLE	410 t	------	sd	ss
13. SERIES TITLE	411 t	------	sd	ss
14. SERIES	440 a,p	Series	sd	ss
15. SERIES	490 a	Series	sd	ss
16. CONTENTS	505 a	Contents	sd	ss
17. CONTENTS	520 a	Contents	sd	ss
18. SUBJECT	600 a,q,b,c,d,x,y,z	LC subject	sd, sa	ss
19. SUBJECT	610 a,b,n,d,c,x,y,z	LC subject	sd, sa	ss
20. SUBJECT	611 a,q,b,n,d,c,e,x,y,z	LC subject	sd, sa	ss
21. SUBJECT	630 a,t,n,p,s,x,y,z	LC subject	sd, sa	ss
22. SUBJECT	650 a,b,x,y,z	LC subject	sd, sa	ss
23. SUBJECT	651 a,b,x,y,z	LC subject	sd, sa	ss
24. SUBJECT	652 a,x,y,z	LC subject	sd, sa	ss
25. SUBJECT	653 a	LC subject	sd, sa	ss
26. GENRE	655 a,x,y,z	------	sd	ss
27. SUBJECT	690 a,b,x,y,z	LC subject	sd, sa	ss
28. SUBJECT	691 a,b,x,y,z	LC subject	sd, sa	ss
29. SUBJECT	692 a,x,y,z,b,c	LC subject	sd, sa	ss
30. SUBJECT	693 a,b,x,y,z	LC subject	sd, sa	ss
31. SUBJECT	694 a,b,q,n,d,c,e,x,y,z	LC subject	sd, sa	ss
32. SUBJECT	695 a,n,p,s,x,y,z	LC subject	sd, sa	ss
33. AUTHOR	700 a,q,b,c,d	Author	------	------
34. SUBHEAD	700 t	------	sd	ss
35. AUTHOR	710 a,q,b,n,d,c	Author	------	------
36. SUBHEAD	710 t	------	sd	ss
37. SPONSOR	711 a,q,b,n,d,c	Sponsor	sd	ss
38. OTHER TITLE	730 a,p,s	Alternate title	sd	ss
39. TITLE ADDED	740 a,p	------	sd	ss
40. SERIES ADDED	830 a,p	------	sd	ss
41. DDC CLASS NUMBER	CALL NUMBER	------	sc	sc
42. DDCRI ENTRY	DDC-REL-INDEX	Dewey subject	------	ss, sa
43. MAIN ENTRY TEXT	DDC-SCHED	Dewey index	------	ss
44. DDC NOTES FOR BIB	DDC-SCHED	------	------	ss

MENU SCREENS: SUBJECT ONLINE CATALOG


Menu 1
SA Search alphabetically for subject ==> Menu 2
SD Search directly for subject ==> Menu 3
SC Search for call number ==> Menu 4
RS Review sets (1) ==> Menu 4
ES End search
Menu 2
[list of aspects (LC subject headings)]
BF Browse forward
BB Browse backward
SD Search directly for previous subject ==> Menu 4
SL Select line(s) to display items
SO Start over ==> Menu 1
Menu 3
[list of sets]
SA Search alphabetically for previous subject ==> Menu 5
DI Display items (1)
SO Start over ==> Menu 1
Menu 4
[list of sets]
DI Display items (1)
SO Start over ==> Menu 1
Menu 5
[list of aspects (LC subject headings)]
BF Browse forward
BB Browse backward
SL Select line(s) to display items
SO Start over ==> Menu 1

(1) Shown only if there is at least 1 set.

Figure 2. Options for SOC searchers during the online search process

1 OF n

CALL NUMBER .....
TITLE .....
ALTERNATE TITLE .....
LC SUBJECT .....
CONTENTS .....
AUTHOR .....
SPONSOR .....
PUBLISHER .....
SERIES .....

Figure 3. Order of and field labels in SOC bibliographic record displays for UI, NYSL, and PLCFC records

LC CALL NUMBER .....
TITLE .....
ALTERNATE TITLE .....
LC SUBJECT .....
CONTENTS .....
DEWEY NUMBER .....
AUTHOR .....
SPONSOR .....
PUBLISHER .....
SERIES .....

Figure 4. Order of and field labels in SOC bibliographic record display for LC records

```
LINE     ITEM          TOPICS--ASPECTS

 A         5           Groups, Continuous
 B         1           Groups, Theory of
        **YOUR TERM WAS NOT FOUND**
 C         1           Hamiltonian operator
 D         1           Hardy spaces
 E        15           Harmonic analysis
 F        14           Harmonic functions
 G         2           Hansdorff measures
 H         1           Heat--Conduction
 I         1           Helmholtz equation--Numerical solutions
 J        16           Hilbert space

OPTIONS:

BF  Browse forward
BB  Browse backward
SD  Search directly for previous subject
SL  Select line(s) to display items
SO  Start over
```

Figure 5. List of alphabetically arranged assigned subject headings and options in a SOC search for Haar Integrals

Searching DOC

Our early plans called for DOC (Dewey Online Catalog) to respond in one of two ways to user-entered subject access points: (1) if the access point matched indexed assigned subject headings, i.e., contents of 6XX fields of bibliographic records, and indexed DDC Relative Index entries, DOC responded to the user with a list of assigned subject headings and Relative Index entries in the alphabetical "neighborhood" of the entered term; or (2) if the access point did not match assigned subject headings on Relative Index entries, DOC would automatically perform a keyword search on the user-entered terms and respond to the user with an intermediate list of perspectives (i.e., headings from the DDC Schedules) in which bibliographic records containing the entered keywords are classed. Then, DOC guides the user through hierarchical arrays of headings from the DDC Schedules and allows the user to select headings of interest to display bibliographic records.

In the first of the three subject searching approaches, alphabetical lists of terms are constructed from the contents of subject heading (i.e., 6XX fields in bibliographic records) and the contents of a field added to the bibliographic record containing terms from the DDC Relative Index. In the second approach, keyword searches of title, subject heading, series, and selected note fields and fields containing terms from the DDC Schedules and Relative Index that are added to the bibliographic records are performed. DOC responds to the user with an intermediate list of perspectives or headings from the DDC Schedules in which bibliographic records containing the user-entered keywords are classed. DOC also allows subject searches for call numbers.

The subject searching scenario of DOC has changed since our initial design of this experimental catalog. Now, when a DOC user begins searching, there are choices for performing a search alphabetically (i.e., obtaining a list of alphabetically arranged Relative Index entries in response to an entered subject access point), for performing a search systematically (i.e., obtaining a report of the classification areas where there are records containing the entered terms), and for performing a call number search. Thus, the DOC user is confronted with the following options when initiating a search in DOC:

SA Search alphabetically for subject
SS Search systematically for subject
SC Search for call number
ES End search

Should a DOC user select option SA, search alphabetically for subject, and enter a subject access point which is not indexed in the system, DOC still responds to the user with a list of alphabetically arranged Relative Index entries and a message indicating where the user's term would have been listed had it been indexed in DOC. Advice from consultant Cochrane that assigned subject headings be omitted from this alphabetically arranged display has been heeded in regard to her caveat that mixing assigned subject headings and Relative Index entries into such displays would not permit the evaluation of Relative Index entries. That is, in the retrieval tests the Project Team evaluators would not know whether the term chosen from the alphabetically

arranged display was a subject heading or Relative Index entry or a combination of the two without substantial checking of the printed DDC Relative Index and printed LCSH.. Thus, DOC's lists of alphabetically arranged terms will only be composed of Relative Index entries.

The process of DOC searching is evident in the menus of options for DOC searchers in Figure 6. Except for menu box 1 in Figure 6, the options listed in the menu boxes appear on the bottom of the screen to inform the user of possible next options. DOC users can only select from the menu of options listed to further the action of the search. Menu box 11 in Figure 6 (except for the Review Sets (RS) option) is the initial screen encountered by DOC searchers. A DOC user who performs a search alphabetically (SA) obtains a list of Relative Index entries and can browse forward or backward in this list (see Figure 7 for an example of the alphabetical display), or select option SL to display bibliographic records containing one or more of the listed entries. The user can select option BT, browse topics, which directs the user to the classification area listed in the printed DDC Relative Index; DOC then lists headings from the classification schedules and presents the user with a list of options for browsing headings in the classification schedules (Figure 6, Menu box 15). Consultant Cochrane recommended option BT, browse topics, to the DDC Online Project Team to enable DOC users to access the DDC Relative Index online in an approach comparable to the approach employed by users of the printed DDC Relative Index, i.e., to be directed from the alphabetical lists of the Relative Index to the logical lists of the DDC Schedules.

There is also option SS which allows the user to search systematically for the terms just entered using the SS option (Figure 6, Menu box 12). A DOC user who selects option SS does not need to reenter search terms; rather, DOC has retained these terms and automatically performs a systematic search of bibliographic records' title, subject, series, and selected note fields, and fields added to the bibliographic record containing terms from the DDC Schedules and Relative Index. DOC responds to the user with an intermediate list of perspectives or headings representing the classification areas where there are books whose bibliographic records contain the user-entered terms (Figure 6, Menu box 13). DOC users can select from this list of perspectives (which are headings from the DDC Schedules from the level of three digits to the left of the decimal point) to scan a list of topics or headings at the exact level of the DDC where there are books whose bibliographic records contain the user-entered terms. A user scanning this list can select any one of the topics listed to browse a list of topics more general than those listed and more specific than those listed (Figure 6, Menu box 14). Or, the user can get more information about a listed topic; this information may be an example note, including note or class here note, and/or a general note, such as a scope note. Unfortunately, this information could not fit on the previous screen because of the limitations of a screen supporting 80 characters per line and 23 lines per screen. Based on consultative advice, the DDC Online Project Team found it necessary to provide an option to enable the display of additional subject information for a heading from the DDC Schedules which could not fit on the screen containing a list of headings from the DDC Schedules. DOC users can also select a heading using the SL option to display bibliographic records in shelflist order. Postings included in lists of topics, i.e., headings from the

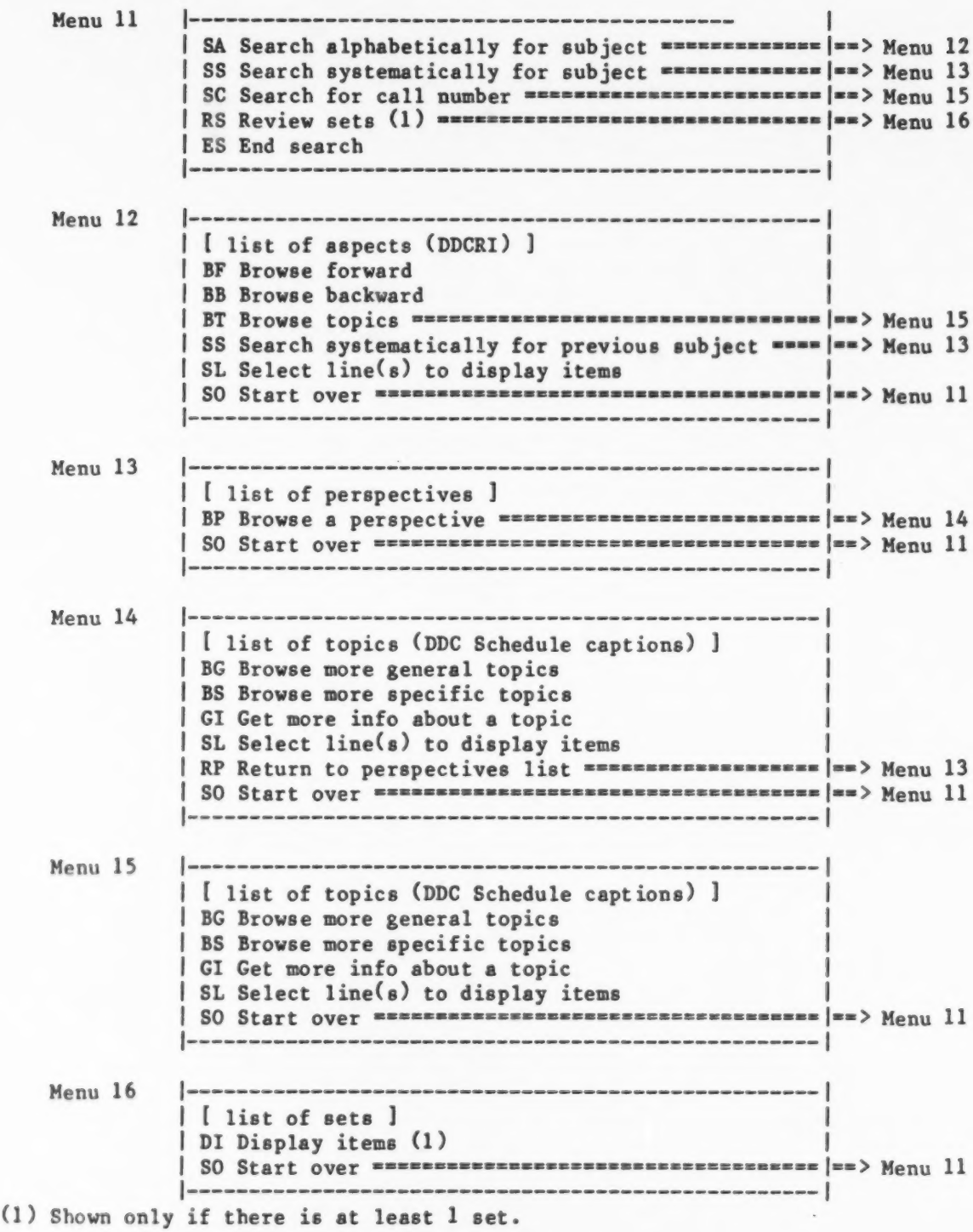
DDC Schedules, are cumulative. Thus, the postings indicate the number of books assigned, the exact number listed, and the number of books assigned a class number beginning with the number listed. Figure 8 is an example of an actual display of DDC Schedule headings and menu options from a DOC systematic search.

DOC allows users to enter Dewey Decimal Classification numbers with the option SC, i.e., search for call number. Unlike SOC, which merely reports the number of books assigned the exact class number and the number of books assigned a class number beginning with the number listed, DOC responds with: (1) a list of topics (or headings) from the DDC Schedules at the same level in the hierarchy as the entered class number; and (2) a list of options that allows the user to browse more general or specific headings, to get more information about a listed heading, or to display bibliographic records assigned the heading (Figure 6, Menu box 15). For example, a user entering class number 515 would obtain a list of headings from the DDC Schedules from 515.1 to 515.9 (see Figure 8). This approach to searching for call numbers in DOC was suggested to the DDC Online Project Team by consultant Chan.

The column entitled "Record Fields and Subfields" in Table 1 lists OCLC/MARC record fields and subfields selected for indexing and/or displaying in DOC. The column entitled "DOC Index Name" identifies the DOC index into which the contents of listed fields and subfields will be processed. For example, the contents of the DOC Relative Index (line 42) are processed into indexes for searching alphabetically (SA) and searching systematically (SS). The column entitled "Display Name" indicates the name of the data in the listed fields and subfields when the data is displayed in bibliographic records. For example, data in field 520, subfield a is only processed into the index for systematic searching (SS) and labeled CONTENTS in bibliographic record displays.

Figure 9 lists the field labels in the order of their appearance in DOC bibliographic record displays for records from the University of Illinois at Urbana-Champaign libraries, New York State Library, and the Public Library of Columbus and Franklin County. Figure 10 lists the field labels in the order of their appearance in a DOC bibliographic record display for records from the Library of Congress. Initially, we had combined terms from the added Dewey Subject (i.e., headings from the DDC Schedules) and Dewey Index (i.e., DDC Relative Index entries) fields into a general field for three sources of subjects: (1) LC subject headings; (2) DDC Schedule headings; and (3) DDC Relative Index entries. However, consultants and representatives from participating libraries and Decimal Classification Division staff did not consider this a wise decision for these reasons: (a) library patrons might try using terms added to bibliographic records from the DDC when performing a search in the library's own online or traditional library catalog; (b) difficulty determining the source of subject terms as LCSH or terms added from DDC if users used these terms to enter into the experimental online catalog in the course of their ongoing search or to determine whether a displayed bibliographic record was relevant to their search topic; and (c) the marked difference in the construction of LC subject headings and terms added to bibliographic records from the DDC using automated procedures. Examples of University of Illinois' records displayed in DOC are given in Appendix D.

MENU SCREENS: DEWEY ONLINE CATALOG


Menu 11
SA Search alphabetically for subject ==> Menu 12
SS Search systematically for subject ==> Menu 13
SC Search for call number ==> Menu 15
RS Review sets (1) ==> Menu 16
ES End search
Menu 12
[list of aspects (DDCRI)]
BF Browse forward
BB Browse backward
BT Browse topics ==> Menu 15
SS Search systematically for previous subject ==> Menu 13
SL Select line(s) to display items
SO Start over ==> Menu 11
Menu 13
[list of perspectives]
BP Browse a perspective ==> Menu 14
SO Start over ==> Menu 11
Menu 14
[list of topics (DDC Schedule captions)]
BG Browse more general topics
BS Browse more specific topics
GI Get more info about a topic
SL Select line(s) to display items
RP Return to perspectives list ==> Menu 13
SO Start over ==> Menu 11
Menu 15
[list of topics (DDC Schedule captions)]
BG Browse more general topics
BS Browse more specific topics
GI Get more info about a topic
SL Select line(s) to display items
SO Start over ==> Menu 11
Menu 16
[list of sets]
DI Display items (1)
SO Start over ==> Menu 11

(1) Shown only if there is at least 1 set.

Figure 6. Options for DOC searchers during the online search process

LINE	ITEMS	TOPICS--ASPECTS
A	3	Groupoids--algebra
B	3	Groups--algebra
*C	2	Haar integral
D	2	Harmonic--analysis--calculus
E	2	Hilbert--spaces
F	3	Hilbert--transform--operational calculus
G	3	Homological algebra--topological algebra
H	3	Hoft algebras and groups
I	1	Hyperbolic--equations
J	2	Hyperbolic--functions

OPTIONS:

BF Browse forward
BB Browse backward
BT Browse topics
SS Search systematically for previous subject
SL Select line(s) to display items
SO Start over

Figure 7. List of alphabetically arranged Relative Index entries and options in a DOC search for "Haar Integral"

GENERAL TOPIC: Analysis

LINE	ITEMS	LOCATION	TOPIC
A	0	515.1	Analysis and calculus combined with other branches of mathematics
B	13	515.2	Generalities
C	357	515.3	Differential calculus and equations
D	180	515.4	Integral calculus and equations
E	96	515.5	Special functions
F	266	515.6	Other analytic methods
G	196	515.7	Functional analysis
H	25	515.8	Functions of real variables
I	0	515.9	Function of complex variables

OPTIONS:

BG Browse more general topics
BS Browse more specific topics
GI Get more info on a topic
SL Select line(s) to display items
SO Start over

Figure 8. List of headings from DDC Schedules and options in a DOC search

```
1 OF n

CALL NUMBER          .....
TITLE                .....
ALTERNATE TITLE      .....
LC SUBJECT           .....
DEWEY SUBJECT        .....
DEWEY INDEX          .....
CONTENTS             .....
AUTHOR               .....
SPONSOR              .....
PUBLISHER            .....
SERIES               .....
```

Figure 9. Order of and field labels in DOC bibliographic record displays for UI, NYSL, and PLCFC records

```
LC CALL NUMBER       .....
TITLE                .....
ALTERNATE TITLE      .....
LC SUBJECT           .....
DEWEY SUBJECT        .....
DEWEY INDEX          .....
CONTENTS             .....
DEWEY NUMBER         .....
AUTHOR               .....
SPONSOR              .....
PUBLISHER            .....
SERIES               .....
```

Figure 10. Order of and field labels in DOC bibliographic record display for LC records

Consequently, terms added to bibliographic records from the DDC Schedules reside in a field entitled Dewey Subject and terms added to bibliographic records from the DDC Relative Index reside in a field entitled Dewey Index. Examples of University of Illinois' records enhanced with headings from the Schedules and Relative Index entries and displayed in DOC are in Appendix D.

The principal changes to design plans described in OCLC's "Dewey Decimal Classification Online Project: Interim Report to the Council on Library Resources" dated April 1984 and reflected in the APL prototype in Appendixes A and B are as follows:

1. Providing the SOC user with the choice of searching alphabetically (SA) or searching directly (SD) rather than the system automatically performing the latter search when the former results in no retrievals.

2. Providing the DOC user with the choice of searching alphabetically (SA) or searching systematically (SS) rather than the system automatically performing the latter when the former results in no retrievals.

3. Constructing DOC indexes for searching alphabetically (SA) with DDC Relative Index entries instead of both DDC Relative Index entries and assigned subject headings.

4. Processing DDC Relative Index entries and DDC Schedule headings into fields separate from assigned subject headings and labeled "Dewey Index" and "Dewey Subject," respectively.

5. Reserving the experimental online catalogs for subject searches exclusively.

Progress Report on Activity 6

There are two main tasks in activity 6: (1) generating the data, i.e., the DDC Schedules, the DDC Relative Index, and the databases for four participating libraries; and (2) developing the Subject Online Catalog (SOC) and Dewey Online Catalog (DOC).

At this time, the DDC team has generated the DDC Schedules and the DDC Relative Index for the four libraries and is about to create the University of Illinois' database (for task 1). The team has finished developing SOC, and is continuing with DOC (for task 2); however, there will still be some refining to do afterwards.

Since most of this report describes SOC and DOC (i.e., task 2), this section will deal with task 1 only, i.e., generating DDC Schedules and Relative Index data and the database for the University of Illinois.

A. DDC Schedules

1. Processing Method

The DDC team processed the tape of DDC Schedules from Inforonics as follows:

- Eliminated diacritics.
- Eliminated some typesetting characters (e.g., @r), and replaced other typesetting characters with meaningful characters (e.g., $ was replaced with -).
- Kept the old DDC numbers (i.e., DDC numbers in brackets) because some libraries may have bibliographic records whose DDC numbers are in pre-19th edition and because there was not a simple algorithm to replace the old DDC numbers with the new ones. Exception: eliminated 798.23074 and 799.1609163-7 because the truncated DDC numbers derived from these DDC numbers did not exist in the records from Public Library of Columbus and Franklin County; the missing DDC numbers caused a gap in the hierarchy of the schedule.
- Eliminated all main entry text (DDC Schedule captions)in brackets.
- Replaced "CLASS HERE" with "ALSO".
- Replaced "xxx" with "SEE xxx, USING CALL-NUMBER SEARCH", where "xxx" is the DDC number(s) found in the relocation note, discontinued note, standard subdivision exception note, or optional provision note.
- Created discrete DDC numbers if a range of DDC numbers was specified.
- Created dummy DDC numbers and their main entry text ("GENERAL ASPECTS. EXAMPLES: JOURNALS, STUDY AND TEACHING") for DDC numbers ending with a zero in order to provide continuity in the hierarchy for browsing more general topics or browsing more specific topics.
- Added "917 GEOGRAPHY OF AND TRAVEL IN NORTH AMERICA", "917.4 GEOGRAPHY OF AND TRAVEL IN NORTHEASTERN U.S.", and "974 NORTHEASTERN UNITED STATES (NEW ENGLAND AND MID ATLANTIC STATES)" to provide continuity in the hierarchy of the DDC schedules.
- The main entry text, including note, example note, class here note, and general note are used in indexing bibliographic records in DOC. The main entry text, including note, example note, class here note, relocation note, discontinued note, standard subdivision exception note, and optional provision note are used in browsing the DDC schedule in DOC.

2. Results of DDC Schedule Processing

University of Illinois
Received: 282 records
Final: 287 records in 51X DDC area

Public Library of Columbus and Franklin County
Received: 527 records
Final: 725 records in 79X DDC area

New York State Library
Received: 179 records
Final: 182 records: 87 in 91X DDC area
95 in 97X DDC area

Library of Congress
Received: 1,171 records
Final: 1,722 records: 1,232 in 33X DDC area
128 in 38X DDC area
362 in 65X DDC area

B. DDC Relative Index

1. Processing Method

The DDC team processed the tape of DDC Relative Index from Inforonics as follows:

- Eliminated diacritics.
- Eliminated typesetting characters.
- Inserted two hyphens between two consecutive-level indexes to mimic the indentation in the printed volume and displaying convention of LCSH in online catalogs.
- Replaced carefully all abbreviations with full words using the table of abbreviations in the printed volume of the Relative Index, even when one abbreviation was translated to several full words.
- Gathered together all the indexes with the same DDC numbers.
- Did not use the cross-reference information in the DDC Relative Index.
- Eliminated all DDC Relative Index entries whose DDC does not exist in the DDC schedules. (e.g., Slide--rule--mathematics has DDC number 510.28, but there is not a 510.28 entry in the DDC schedules.)
- The DDC Relative Index is used for the alphabetical search and systematic search, and for the browsing aspects in DOC.

2. Results of DDC Relative Index Processing

University of Illinois:
Received: 278 records
Final: 231 records

Public Library of Columbus and Franklin County:
Received: 680 records
Final: 348 records

New York State Library:
Received: 162 records
Final: 162 records

Library of Congress:
Received: 1,095 records
Final: 789 records

C. Bibliographic Records from University of Illinois

The DDC team processed the tape of bibliographic records from University of Illinois as follows:

- Collected 14,949 records: 3,887 records from file 1 and 11,062 records from file 3 of the tape. File 2 was empty.
- Extracted 4,728 records whose OCLC symbol was "UIUU" from files 1 and 3. This set of records was rejected because it contained too few records.
- Extracted 7,970 records: 4,728 "UIUU" records from files 1 and 3, and 3,242 "UIU6" records from file 1. (Including the additional 5,666 "UIU6" records from file 3 with the 7,970 records would make the amount too large: 13,636 records.) This set of records was rejected after it was confirmed that only "UIU6" records were meant to be used.
- Extracted 8,908 "UIU6" records from files 1 and 3. This set of records was rejected because it contained 1,219 records whose DDC numbers were outside the 51x range.
- Extracted 7,689 "UIU6" records within 51X DDC area.
- Eliminated 373 duplicates from the 7,689 records; therefore, 7,316 unique bibliographic records were kept. These unique bibliographic records are in different languages, such as English, German, French, Italian, Spanish, Russian, Danish, and Swedish.
- Extracted fields and subfilds from the 7,316 unique bibliographic records, 287 DDC Schedule records, and 231 DDC Relative Index records according to Table 1 in order to create the database. The extraction of the fields from the bibliographic records as specified in Table 1 is quite straightforward; however, the extraction of the DDC information may not be. The following clarifies the use of the DDC information in a bibliographic record:

  - DDC CLASS NUMBER (Line 41 in Table 1): This is the DDC number derived from the bibliographic record's CALL NUMBER (Line 1). The derivation is as follows:
    1) remove everything (e.g., book number, cutter) but the DDC number from the CALL NUMBER.
    2) look for a match in the DDC Schedule.
    3) if there is a match, use the number as the DDC CLASS NUMBER; if there is not a match, truncate the last digit from the DDC number and repeat steps 2 and 3 until a match is found.
    4) if the DDC number has been truncated to three digits and there is no match, reject the bibliographic record.

    This method of deriving the DDC CLASS NUMBER implies that a) the add-on portions are ignored, and b) every bibliographic record in the database will have a DDC CLASS NUMBER that links the bibliographic record to the DDC Schedules and Relative Index.
  - DDCRI ENTRY (Line 42): This field contains one or more occurrences of the DDC Relative Index entry. (The maximum number of occurrences was found to be 21.) The entries are selected via the DDC CLASS NUMBER derived above.

- MAIN ENTRY TEXT (Line 43): This field contains one or two occurrences of the main entry text from the DDC schedule: one occurrence is selected via the truncated DDC CLASS NUMBER, the other via the DDC CLASS NUMBER. (The truncated DDC CLASS NUMBER is defined as the DDC CLASS NUMBER without the last digit. If the truncated DDC CLASS NUMBER is two digits long or less, then it is ignored.) If there are two occurrences of the main entry text, they are connected together as two sentences in one field.
- DDC NOTES FOR BIB (Line 44): This field contains four types of notes from the DDC Schedule: including note, example note, class here note, and general note. These notes are selected via the truncated DDC CLASS NUMBER and the DDC CLASS NUMBER, as in the case of the MAIN ENTRY TEXT.

PLANNING FOR FUTURE ACTIVITIES

During the Annual Conference of the American Library Association held June 1984, Karen Markey provided project participants with an update of the DDC Online Project Team's progress. Participants from the Decimal Classification Division of the Library of Congress, University of Illinois at Urbana-Champaign, New York State Library, Public Library of Columbus and Franklin County, and Forest Press were briefed on the project and discussed the schedule for the retrieval experiments in Activity 8. After the completion of this Interim Report, Principal Investigator Markey will initiate Activity 7 by drawing up data collection procedures and instruments that will eventually be used in the experimental retrieval tests of Activity 8. These draft procedures and instruments will be sent to project consultants for review in September 1984.

Activity 7 was not scheduled to begin until December 1, 1984. However, it was necessary for the DDC Online Project Team to revise procedures for building the databases of the experimental online catalogs because the LSI-11 microprocessor does not have sufficient storage to store all four libraries' databases at one time. Thus, the database for the first library will be built and sent to the participating library for testing in retrieval experiments with library patrons and staff. When the experiments are complete, the LSI-11 is returned to OCLC and the database removed. The database of the second participating library will then be built and sent to the library for testing in retrieval experiments with library patrons and staff, and so on. Our estimates of a schedule for installing the LSI-11 in participating libraries is as follows:

DATE	PLACE
November 18, 1984--December 22, 1984	University of Illinois at Urbana-Champaign
March 4, 1985--March 29, 1985	Public Library of Columbus and Franklin County

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April 8, 1985--May 3, 1985	New York State Library
May 13, 1985--June 14, 1985	Social Science Reading Room, Library of Congress
June 15, 1985--July 13, 1985	Decimal Classification Division, Library of Congress

While this schedule is bound to change in the future, it is our best estimate of the installation period for the experimental online catalogs at the present time.

DISSEMINATION OF INFORMATION ON THE DDC ONLINE PROJECT

1. OCLC Press Release. On January 19, 1984, OCLC issued a press release on the DDC Online Project. (See April 1984 Interim Report for the text of this press release.) This release and portions of it have been published in many library journals and newsletters including Library Hi Tech 1 (3) (March 1984), Library Journal (May 1, 1984), RTSD Newsletter 9 (3) (1984), and American Libraries 15 (5) (May 1984).

2. Oral Presentations. Anh Demeyer gave repeated 15-minute presentations on the DDC Online Project to the OCLC Users Council on May 20, 1984. Karen Markey closed the CCS RTSD Subject Analysis Committee's (SAC) 3 1/2 hour program on "Subject Access in the Online Catalog" at the 103rd Conference of the American Library Association (ALA) on June 24, 1984 with a half-hour presentation that included details on the DDC Online Project. A summary of this presentation was provided in American Libraries 15 (7) (July-August 1984), p.517.

   Karen Markey will include presentations on the DDC Online Project in her symposia and lectures on online catalogs in Stockholm, Sweden, in September 1984, as a guest of the Royal Institute of Technology Library, and in Lancaster, England, in September 1984, as a speaker at the MARC Users Groups 10th Annual Conference.

3. Publications. Interim reports to the Council on Library Resources on the DDC Online Project are submitted to ERIC routinely and made available in microfiche and hardcopy through EDRS (ERIC Document Reproduction Service). Karen Markey's paper entitled "The Dewey Decimal Classification as a Library User's Tool in an Online Catalog" has been accepted for publication in the Proceedings of the 47th ASIS Annual Meeting, Volume 21, published by Knowledge Industry Publications for the American Society for Information Science. Karen Markey's paper entitled "Subject Searching Experiences and Needs of Online Catalog Users -- Implications for Library Classification", which was presented at ALA in Dallas, Texas in June 1984, has been accepted for publication in Library Resources & Technical Services in the January-March 1985 issue.

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4. Specific mail or phone requests for information about the project were received from Judy Reynolds (Clark Library, San Jose State University, San Jose, CA), Louise Farrell (Mattoon, IL), Gail Bonath (School of Library Science, University of Michigan, Ann Arbor, MI), James M. O'Brien (Head Librarian, Oak Lawn Public Library, Oak Lawn, IL), Geoff Hutt (Bibliographic Services Division, The British Library, London, England), and Tom Hassler (Rasmuson Library, University of Alaska, Fairbanks, AK). Karen Merry (British Library Lending Division), Andrew Pallay (Carnegie-Mellon University), and Edward Flowers (University Librarian, University of Newcastle, Australia) were visitors to OCLC who were briefed on the DDC Online Project by Anh Demeyer and Karen Markey.

SOC SEARCH

```
      PROTO
WELCOME TO DDC ONLINE PROJECT PROTOTYPE
LOOKING FOR:
   1. SUBJECT
   2. CALL NUMBER
   3. TITLE
   4. END
     ENTER NUMBER OF YOUR CHOICE:
1
ENTER YOUR SUBJECT:
BALL GAMES
LINE   ITEMS  TOPICS--ASPECTS
   1      2   BALL GAMES
   2      1   BALL GAMES--ARIZONA
   3      1   BALL GAMES--CENTRAL AMERICA
   4      1   BALL GAMES--HISTORY
   5     89   BALLET
   6      1   BALLET--ADDRESSES, ESSAYS, LECTURES
   7      3   BALLET--BIOGRAPHY--DICTIONARIES
   8      1   BALLET--COSTUME
   9      1   BALLET--COSTUME--CATALOGS
  10     25   BALLET DANCING
OPTIONS:
A  DISPLAY TITLES TO LISTED TOPICS
B  GO FORWARD IN LIST OF TOPICS
C  GO BACKWARD IN LIST OF TOPICS
D  START OVER
E  CONTINUE SEARCHING FOR THIS SUBJECT
     ENTER LETTER OF YOUR CHOICE:
A
ENTER LINE NUMBER OF TOPIC:
1
   >LIST 1:     2 ITEMS FOR BALL GAMES<

1
CALL NO.:  796.3.B58L
AUTHOR: BLAKE, O. WILLIAM
TITLE:  LEAD-UP-GAMES TO TEAM SPORTS
PUBLISHER: ENGLEWOOD CLIFFS, NJ: PRENTICE-HALL. YEAR: 1964
SUBJECT: 1. BALL GAMES
```

EXPLANATION

APL prototype of SOC permitted searches by subject, call number, and title. Subject searches represented both search alphabetically and search directly approaches, but APL SOC first performed a search alphabetically.

User enters his topic "Ball Games."

The user-entered topic "Ball Games" is indexed as an assigned subject heading. Thus, APL SOC responds to the user with a list of alphabetically-arranged assigned subject headings. APL SOC has performed the search alphabetically.

Menu options at this point in the APL SOC search.

User has chosen to display titles assigned the subject heading "Ball Games."

Displays of 2 APL SOC records.

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SOC SEARCH

EXPLANATION

```
2
CALL NO.:  796.3.C85B
AUTHOR: CRAWLEY, A.E., 1869-
TITLE:  THE BOOK OF THE BALL
PUBLISHER: LONDON: METHUEN AND CO.. YEAR: 1913
SUBJECTS: 1. BALL
   2. BALL GAMES
   3. ATHLETICS
OPTIONS:
A  RETURN TO LIST OF TOPICS
B  START OVER
     ENTER LETTER OF YOUR CHOICE:
A
```

User has chosen to display the list of assigned subject headings.

LINE	ITEMS	TOPICS--ASPECTS
1	2	BALL GAMES
2	1	BALL GAMES--ARIZONA
3	1	BALL GAMES--CENTRAL AMERICA
4	1	BALL GAMES--HISTORY
5	89	BALLET
6	1	BALLET--ADDRESSES, ESSAYS, LECTURES
7	3	BALLET--BIOGRAPHY--DICTIONARIES
8	1	BALLET--COSTUME
9	1	BALLET--COSTUME--CATALOGS
10	25	BALLET DANCING

```
OPTIONS:
A  DISPLAY TITLES TO LISTED TOPICS
B  GO FORWARD IN LIST OF TOPICS
C  GO BACKWARD IN LIST OF TOPICS
D  START OVER
E  CONTINUE SEARCHING FOR THIS SUBJECT
     ENTER LETTER OF YOUR CHOICE:
B
```

Menu options at this point in the APL SOC search.

User has chosen to browse forward in the list of alphabetically-arranged subject headings.

LINE	ITEMS	TOPICS--ASPECTS
1	1	BALLET DANCING--STUDY AND TEACHING
2	1	BALLET DANCING--VOCATIONAL GUIDANCE
3	7	BALLET--DICTIONAIRES
4	21	BALLET--HISTORY
5	1	BALLET IN MOVING-PICTURES
6	6	BALLET--PICTORIAL WORKS
7	1	BALLET--STUDY AND TEACHING
8	1	BALLETS--EXCERPTS
9	1	BALLETS--STORIES, PLOTS
10	15	BALLROOM DANCING

```
OPTIONS:
```

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SOC SEARCH	EXPLANATION
A DISPLAY TITLES TO LISTED TOPICS *B GO FORWARD IN LIST OF TOPICS* *C GO BACKWARD IN LIST OF TOPICS* *D START OVER* *E CONTINUE SEARCHING FOR THIS SUBJECT* *ENTER LETTER OF YOUR CHOICE:*	Menu options at this point in the APL SOC search.
D *SORRY, NOT AVAILABLE IN SIMULATION* *LOOKING FOR:* 1. *SUBJECT* 2. *CALL NUMBER* 3. *TITLE* 4. *END* *ENTER NUMBER OF YOUR CHOICE:*	User has chosen an APL SOC option that APL SOC cannot perform at this point in the search. The actual SOC would be able to perform the selected option.
1 *ENTER YOUR SUBJECT:* *BALL GAMES*	User reenters the subject "Ball Games."
LINE ITEMS TOPICS--ASPECTS 1 2 *BALL GAMES* 2 1 *BALL GAMES--ARIZONA* 3 1 *BALL GAMES--CENTRAL AMERICA* 4 1 *BALL GAMES--HISTORY* 5 89 *BALLET* 6 1 *BALLET--ADDRESSES, ESSAYS, LECTURES* 7 3 *BALLET--BIOGRAPHY--DICTIONARIES* 8 1 *BALLET--COSTUME* 9 1 *BALLET--COSTUME--CATALOGS* 10 25 *BALLET DANCING*	APL SOC responds to the user-entered topic "Ball Games" with a list of alphabetically-arranged subject headings because there is a subject headings indexed in SOC which matches the user-entered terms.
OPTIONS: *A DISPLAY TITLES TO LISTED TOPICS* *B GO FORWARD IN LIST OF TOPICS* *C GO BACKWARD IN LIST OF TOPICS* *D START OVER* *E CONTINUE SEARCHING FOR THIS SUBJECT* *ENTER LETTER OF YOUR CHOICE:*	Menu options at this point in the APL SOC search. User chooses option E and APL SOC performs a keyword search, i.e., the system searches directly for the user-entered terms.
E *>LIST 2: 5 ITEMS FOR BALL GAMES<*	A total of 5 records contain the terms Ball and Games in title, series, selected note, and subject heading fields.
OPTIONS: *A START OVER* *B DISPLAY TITLES TO LISTED TOPICS* *ENTER LETTER OF YOUR CHOICE:*	
B	

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SOC SEARCH

EXPLANATION

```
1
CALL NO.:  796.3.B58L
AUTHOR: BLAKE, O. WILLIAM
TITLE:  LEAD-UP-GAMES TO TEAM SPORTS
PUBLISHER: ENGLEWOOD CLIFFS, NJ: PRENTICE-HALL. YEAR: 1964
SUBJECT: 1. BALL GAMES

2
CALL NO.:  796.3C83H
AUTHOR: COX, ALLAN ELTON
TITLE:  AN HISTORICAL ANALYSIS OF COMPETITIVE RUBBER BALL GAMES IN MESOA
     MERICA
PUBLISHER: EDMONTON, ALBA.: UNIVERSITY OF ALBERTA. YEAR: 1967
SUBJECTS: 1. BALL GAMES--CENTRAL AMERICA
   2. BALL GAMES--ARIZONA

3
CALL NO.:  796.3.C85B
AUTHOR: CRAWLEY, A.E., 1869-
TITLE:  THE BOOK OF THE BALL
PUBLISHER: LONDON: METHUEN AND CO.. YEAR: 1913
SUBJECTS: 1. BALL
   2. BALL GAMES
   3. ATHLETICS

4
CALL NO.:  796.309
AUTHOR: HENDERSON, ROBERT WILLIAM
TITLE:  BALL, BAT AND BISHOP: THE ORIGIN OF BALL GAMES
PUBLISHER: NEW YORK: ROCKPORT PRESS. YEAR: 1947
SUBJECTS: 1. BALL GAMES--HISTORY
   2. BASEBALL--HISTORY
OPTIONS:
A  START OVER
B  DISPLAY MORE TITLES
    ENTER LETTER OF YOUR CHOICE:
A

LOOKING FOR:
   1. SUBJECT
   2. CALL NUMBER
   3. TITLE
   4. END
     ENTER NUMBER OF YOUR CHOICE:
4
BYE
```

The user displays the first 4 of 5 retrieved records from the keyword search.

At this point, the user ends the APL SOC search.

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DOC SEARCH	EXPLANATION
DDC WELCOME TO DDC ONLINE PROJECT PROTOTYPE LOOKING FOR: 1. SUBJECT 2. CALL NUMBER 3. TITLE 4. END ENTER NUMBER OF YOUR CHOICE:	Like APL SOC, APL DOC permitted searches by subject, call number, and title. Subject searches represented both search alphabetically and search directly approaches, but APL DOC first performed a search alphabetically.
1 ENTER YOUR SUBJECT: BALL GAMES	The user enters the topic "Ball Games."
LINE ITEMS TOPICS--ASPECTS 1 2 BALL GAMES 2 1 BALL GAMES--ARIZONA 3 1 BALL GAMES--CENTRAL AMERICA 4 1 BALL GAMES--HISTORY 5 3 BALL--GAMES--INDOOR--RECREATION 6 5 BALL--GAMES--OUTDOOR AND GEN.--SPORTS 7 89 BALLET 8 1 BALLET--ADDRESSES, ESSAYS, LECTURES 9 3 BALLET--BIOGRAPHY--DICTIONARIES 10 1 BALLET--COSTUME	The user-entered topic "Ball Games" is indexed in DOC in various forms in assigned subject headings and Relative Index entries. Thus, APL DOC responds to the user with a list of alphabetically-arranged subject headings and Relative Index entries. APL DOC has performed this search alphabetically.
OPTIONS: A DISPLAY TITLES TO LISTED TOPICS B GO FORWARD IN LIST OF TOPICS C GO BACKWARD IN LIST OF TOPICS D START OVER E CONTINUE SEARCHING FOR THIS TOPIC ENTER LETTER OF YOUR CHOICE:	Menu options at this point in the APL DOC search.
A ENTER LINE NUMBER OF TOPIC: 6 >LIST 1: 5 ITEMS FOR BALL GAMES<	User has chosen to display titles bearing the Relative Index entry "Ball--Games--Outdoor and Gen.--Sports."
1 CALL NO.: 796.3.B58L AUTHOR: BLAKE, O. WILLIAM TITLE: LEAD-UP GAMES TO TEAM SPORTS PUBLISHER: ENGLEWOOD CLIFFS, NJ: PRENTICE-HALL. YEAR: 1964 SUBJECTS: 1. ATHLETIC AND OUTDOOR SPORTS AND GAMES--BALL GAMES 2. BALL GAMES 3. BALL--GAMES--OUTDOOR AND GEN.--SPORTS	Displays of 4 of the 5 retrieved APL DOC records. Note that Relative Index entries, subject headings, and headings from the Schedules were entered into a single field entitled "Subjects" in APL DOC.

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DOC SEARCH	EXPLANATION
2 *CALL NO.:* 796.3.C83H *AUTHOR:* COX, ALLAN ELTON *TITLE:* AN HISTORICAL ANALYSIS OF COMPETITIVE RUBBER BALL GAMES IN MESOAMERICA *PUBLISHER:* EDMONTON, ALBA.: UNIVERSITY OF ALBERTA. *YEAR:* 1967 *SUBJECTS:* 1. ATHLETIC AND OUTDOOR SPORTS AND GAMES--BALL GAMES 2. BALL GAMES--CENTRAL AMERICA 3. BALL GAMES--ARIZONA 4. BALL--GAMES--OUTDOOR AND GEN.--SPORTS	Continuation of bibliographic records.
3 *CALL NO.:* 796.3.C85B *AUTHOR:* CRAWLEY, A.E., 1869- *TITLE:* THE BOOK OF THE BALL *PUBLISHER:* LONDON: METHUEN AND CO.. *YEAR:* 1913 *SUBJECTS:* 1. ATHLETIC AND OUTDOOR SPORTS AND GAMES--BALL GAMES 2. BALL 3. BALL GAMES 4. ATHLETICS 5. BALL--GAMES--OUTDOOR AND GEN.--SPORTS	
4 *CALL NO.:* 796.309.H4 *AUTHOR:* HENDERSON, ROBERT WILLIAM *TITLE:* BALL, BAT AND BISHOP: THE ORIGIN OF BALL GAMES *PUBLISHER:* NEW YORK: ROCKPORT PRESS. *YEAR:* 1947 *SUBJECTS:* 1. ATHLETIC AND OUTDOOR SPORTS AND GAMES--BALL GAMES 2. BALL GAMES--HISTORY 3. BASEBALL--HISTORY 4. BALL--GAMES--OUTDOOR AND GEN.--SPORTS	
OPTIONS: *A* DISPLAY LIST OF TOPICS *B* START OVER *C* DISPLAY MORE TITLES ENTER LETTER OF YOUR CHOICE: *A*	Menu options at this point in the APL DOC search allow user to continue display of retrieved records, obtain the list of subject headings and Relative Index entries, or start over. User selects option to obtain the list of subject headings and Relative Index entries.

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DOC SEARCH | **EXPLANATION**

```
LINE   ITEMS  TOPICS--ASPECTS
   1      2   BALL GAMES
   2      1   BALL GAMES--ARIZONA
   3      1   BALL GAMES--CENTRAL AMERICA
   4      1   BALL GAMES--HISTORY
   5      3   BALL--GAMES--INDOOR--RECREATION
   6      5   BALL--GAMES--OUTDOOR AND GEN.--SPORTS
   7     89   BALLET
   8      1   BALLET--ADDRESSES, ESSAYS, LECTURES
   9      3   BALLET--BIOGRAPHY--DICTIONARIES
  10      1   BALLET--COSTUME
OPTIONS:
A  DISPLAY TITLES TO LISTED TOPICS
B  GO FORWARD IN LIST OF TOPICS
C  GO BACKWARD IN LIST OF TOPICS
D  START OVER
E  CONTINUE SEARCHING FOR THIS TOPIC
     ENTER LETTER OF YOUR CHOICE:
E
THIS TOPIC IS TREATED FROM 2 PERSPECTIVES:
LINE   PERSPECTIVE
  1    INDOOR GAMES OF SKILL
  2    ATHLETIC AND OUTDOOR SPORTS AND GAMES
OPTIONS:
A  SELECT A PERSPECTIVE
B  START OVER
     ENTER LETTER OF YOUR CHOICE:
A
ENTER LINE NUMBER OF PERSPECTIVE:
1
LINE   AREA       TOPICS                    ITEMS
                  BALL GAMES
  1    794.72      BILLIARDS                   8
  2    794.73      POOL (POCKET BILLIARDS)     2
OPTIONS:
A  DISPLAY TITLES TO LISTED TOPICS
B  BROWSE TOPICS RELATED TO LISTED TOPICS
C  START OVER
D  RETURN TO LIST OF PERSPECTIVES
     ENTER LETTER OF YOUR CHOICE:
D
```

Menu options at this point in the APL DOC search. User chooses option E and APL DOC performs a keyword search, i.e, searches systematically, and identifies the classification areas by displaying the DDC Schedule headings at the level of three digits to the left of the decimal where retrieved books' bibliographic records contain the user-entered terms in their title, series, selected note, subject heading, DDC Relative Index entry, and DDC Schedule heading fields.

The result is a list of perspectives, i.e., headings from the DDC Schedules at classification numbers 794 and 796.

User selects perspective 1 which directs the user to the exact classification area (796.70-796.79) where bibliographic records were retrieved.

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DOC SEARCH | **EXPLANATION**

```
LINE   PERSPECTIVE
  1    INDOOR GAMES OF SKILL
  2    ATHLETIC AND OUTDOOR SPORTS AND GAMES
OPTIONS:
A  SELECT A PERSPECTIVE
B  START OVER
     ENTER LETTER OF YOUR CHOICE:
A
ENTER LINE NUMBER OF PERSPECTIVE:
2
```

User returns to list of perspectives.

```
LINE   AREA      TOPICS                                                    ITEMS
                 BALL GAMES
  1    796.31    BALL THROWN OR HIT BY HAND. EXAMPLES: HANDBALL,             19
                 LAWN BOWLING
  2    796.32    INFLATED BALL THROWN OR HIT BY HAND. INCLUDING NETBALL      72
  3    796.33    INFLATED BALL DRIVEN BY FOOT                               498
  4    796.34    RACQUET GAMES. INCLUDING COURT TENNIS, PADDLE TENNIS       223
  5    796.35    BALL DRIVEN BY CLUB, MALLET, BAT                           215
OPTIONS:
A  DISPLAY TITLES TO LISTED TOPICS
B  BROWSE TOPICS RELATED TO LISTED TOPICS
C  START OVER
D  RETURN TO LIST OF PERSPECTIVES
     ENTER LETTER OF YOUR CHOICE:
B
ENTER LINE NUMBER OF LISTED TOPIC:
5
OPTIONS:
A  BROWSE MORE GENERAL TOPICS
B  BROWSE MORE SPECIFIC TOPICS
C  START OVER
     ENTER LETTER OF YOUR CHOICE:
B
```

User chooses perspective 2 which directs the user to the exact classification area (796.30 -796.39) where bibliographic records were retrived.

Menu options at this point in the APL DOC search.

User chooses to browse topics, i.e., DDC Schedule headings, more specific than the heading on line 5 with class number 796.35.

```
LINE   AREA      TOPICS                                                    ITEMS
                 BALL DRIVEN BY CLUB, MALLET, BAT
  1    796.352   GOLF                                                      101
  2    796.353   POLO                                                        2
  3    796.354   CROQUET                                                     1
  4    796.355   FIELD HOCKEY                                                5
  5    796.357   BASEBALL                                                   78
  6    796.358   CRICKET                                                    21
```

DDC Schedule headings from 796.350-796.359.

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DOC SEARCH	EXPLANATION
OPTIONS: *A DISPLAY TITLES TO LISTED TOPICS* *B BROWSE TOPICS RELATED TO LISTED TOPICS* *C START OVER* *D RETURN TO LIST OF PERSPECTIVES* *ENTER LETTER OF YOUR CHOICE:* *B* *ENTER LINE NUMBER OF LISTED TOPIC:* 5 *OPTIONS:* *A BROWSE MORE GENERAL TOPICS* *B BROWSE MORE SPECIFIC TOPICS* *C START OVER* *ENTER LETTER OF YOUR CHOICE:* *B*	Menu options at this point in the APL DOC search. User chooses to browse topics, i.e., DDC Schedule headings, more specific than the heading on line 5 with class number 796.357 for "Baseball."

LINE	*AREA*	*TOPICS*	*ITEMS*	
		BASEBALL		DDC Schedule headings from 796.3570-796.3579.
1	796.3572	*STRATEGY AND TACTICS*	27	
2	796.3573	*UMPIRING*	18	
3	796.3576	*SPECIFIC TYPES OF BASEBALL*	9	
4	796.3577	*VARIOUS SPECIFIC GAMES*	5	
5	796.3578	*VARIANTS. EXAMPLES: SOFTBALL, INDOOR BASEBALL*	12	

OPTIONS: *A DISPLAY TITLES TO LISTED TOPICS* *B BROWSE TOPICS RELATED TO LISTED TOPICS* *C START OVER* *D RETURN TO LIST OF PERSPECTIVES* *ENTER LETTER OF YOUR CHOICE:* *B* *ENTER LINE NUMBER OF LISTED TOPIC:* 3 *OPTIONS:* *A BROWSE MORE GENERAL TOPICS* *B BROWSE MORE SPECIFIC TOPICS* *C START OVER* *ENTER LETTER OF YOUR CHOICE:* *B*	Menu options at this point in the APL DOC search. User chooses to browse topics more specific than the heading on line 3 with class number 796.3576 for "Specific types of baseball."

LINE	*AREA*	*TOPICS*	*ITEMS*	
		SPECIFIC TYPES OF BASEBALL		DDC Schedule headings from 796.35760-796.35769.
1	796.35762	*PRECOLLEGE. INCLUDING SANDLOT BASEBALL*	0	
2	796.35763	*COLLEGE*	2	
3	796.35764	*PROFESSIONAL AND SEMIPROFESSIONAL*	7	

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DOC SEARCH	EXPLANATION
OPTIONS: *A DISPLAY TITLES TO LISTED TOPICS* *B BROWSE TOPICS RELATED TO LISTED TOPICS* *C START OVER* *D RETURN TO LIST OF PERSPECTIVES* *ENTER LETTER OF YOUR CHOICE:*	Menu options at this point in APL DOC search.
A *ENTER LINE NUMBER OF LISTED TOPIC:* 3	User chooses to display items by selecting line 3 with class number 796.35764 for "Professional and Semiprofessional" Baseball.
>LIST 2: 7 ITEMS FOR PROFESSIONAL AND SEMIPROFESSIONAL<	
1 *CALL NO.:* 796.35764.R635I *AUTHOR:* *ROGOSIN, DONN* *TITLE:* *INVISIBLE MEN: LIFE IN BASEBALLS NEGRO LEAGUES* *PUBLISHER: NEW YORK: ATHENEUM. YEAR:* 1983 *SUBJECTS:* 1. *SPECIFIC TYPES OF BASEBALL--PROFESSIONAL AND SEMIPROFESSIONAL* 2. *BASEBALL--UNITED STATES--HISTORY* 3. *SEGREGATION IN SPORTS* 4. *AFRO-AMERICAN BASEBALL PLAYERS*	User displays first 4 of 7 retrieved items.
2 *CALL NO.:* 796.3576409.D55H *AUTHOR:* *DICKEY, GLENN* *TITLE:* *THE HISTORY OF NATIONAL LEAGUE BASEBALL SINCE* 1876 *PUBLISHER: NEW YORK: STEIN AND DAY. YEAR:* 1979 *SUBJECTS:* 1. *SPECIFIC TYPES OF BASEBALL--PROFESSIONAL AND SEMIPROFESSIONAL* 2. *NATIONAL LEAGUE OF PROFESSIONAL BASEBALL CLUBS--HISTORY*	
3 *CALL NO.:* 796.35764097.L5 *AUTHOR:* *LINN, EDWARD* *TITLE:* *STEINBRENNERS YANKEES* *PUBLISHER: NEW YORK: HOLT, RINEHART, AND WINSTON. YEAR:* 1982 *SUBJECTS:* 1. *SPECIFIC TYPES OF BASEBALL--PROFESSIONAL AND SEMIPROFESSIONAL* 2. *STEINBRENNER, GEORGE M.* 3. *JACKSON, REGGIE* 4. *MARTIN, BILLY, 1928-*	
4 *CALL NO.:* 796.357640973.D559H *AUTHOR:* *DICKEY, GLENN* *TITLE:* *THE HISTORY OF AMERICAN LEAGUE BASEBALL, SINCE* 1901 *PUBLISHER: NEW YORK: STEIN AND DAY. YEAR:* 1980 *SUBJECTS:* 1. *SPECIFIC TYPES OF BASEBALL--PROFESSIONAL AND SEMIPROFESSIONAL* 2. *AMERICAN LEAGUE OF PROFESSIONAL BASEBALL CLUBS--HISTORY*	

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DOC SEARCH	EXPLANATION
OPTIONS: A DISPLAY LIST OF TOPICS B START OVER C DISPLAY MORE TITLES ENTER LETTER OF YOUR CHOICE:	User selects option A to return to list of topics, i.e., DDC Schedule headings.
A	

LINE	AREA	TOPICS	ITEMS
		SPECIFIC TYPES OF BASEBALL	
1	796.35762	PRECOLLEGE. INCLUDING SANDLOT BASEBALL	0
2	796.35763	COLLEGE	2
3	796.35764	PROFESSIONAL AND SEMIPROFESSIONAL	7

DDC Schedule headings from 796.35760 -796.35769.

DOC SEARCH	EXPLANATION
OPTIONS: A DISPLAY TITLES TO LISTED TOPICS B BROWSE TOPICS RELATED TO LISTED TOPICS C START OVER D RETURN TO LIST OF PERSPECTIVES ENTER LETTER OF YOUR CHOICE:	Menu options at this point in APL DOC search.
B	
ENTER LINE NUMBER OF LISTED TOPIC:	User chooses to browse topics more general than the heading on line 3 with class number 796.35764 for "Professional and Semiprofessional."
3	
OPTIONS: A BROWSE MORE GENERAL TOPICS B BROWSE MORE SPECIFIC TOPICS C START OVER ENTER LETTER OF YOUR CHOICE:	
A	

LINE	AREA	TOPICS	ITEMS
		BASEBALL	
1	796.3572	STRATEGY AND TACTICS	27
2	796.3573	UMPIRING	18
3	796.3576	SPECIFIC TYPES OF BASEBALL	9
4	796.3577	VARIOUS SPECIFIC GAMES	5
5	796.3578	VARIANTS. EXAMPLES: SOFTBALL, INDOOR BASEBALL	12

DDC Schedule headings from 796.3570-796.3579.

DOC SEARCH	EXPLANATION
OPTIONS: A DISPLAY TITLES TO LISTED TOPICS B BROWSE TOPICS RELATED TO LISTED TOPICS C START OVER D RETURN TO LIST OF PERSPECTIVES ENTER LETTER OF YOUR CHOICE:	
B	User chooses to browse topics more general than the heading on line 3 with class number 796.3576 for "Specific types of baseball."
ENTER LINE NUMBER OF LISTED TOPIC:	
3	
OPTIONS: A BROWSE MORE GENERAL TOPICS B BROWSE MORE SPECIFIC TOPICS C START OVER	

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EXPLANATION

ENTER LETTER OF YOUR CHOICE:

A

LINE	*AREA*	*TOPICS*	*ITEMS*
		BALL DRIVEN BY CLUB, MALLET, BAT	
1	796.352	*GOLF*	101
2	796.353	*POLO*	2
3	796.354	*CROQUET*	1
4	796.355	*FIELD HOCKEY*	5
5	796.357	*BASEBALL*	78
6	796.358	*CRICKET*	21

DDC Schedule headings from 796.350-796.359.

OPTIONS:
A DISPLAY TITLES TO LISTED TOPICS
B BROWSE TOPICS RELATED TO LISTED TOPICS
C START OVER
D RETURN TO LIST OF PERSPECTIVES
ENTER LETTER OF YOUR CHOICE:

B

ENTER LINE NUMBER OF LISTED TOPIC:

5

User chooses to browse topics more general than the heading on line 5 with class number 796.357 for "Baseball."

OPTIONS:
A BROWSE MORE GENERAL TOPICS
B BROWSE MORE SPECIFIC TOPICS
C START OVER
ENTER LETTER OF YOUR CHOICE:

A

LINE	*AREA*	*TOPICS*	*ITEMS*
		BALL GAMES	
1	796.31	*BALL THROWN OR HIT BY HAND. EXAMPLES: HANDBALL, LAWN BOWLING*	19
2	796.32	*INFLATED BALL THROWN OR HIT BY HAND. INCLUDING NETBALL*	72
3	796.33	*INFLATED BALL DRIVEN BY FOOT*	498
4	796.34	*RACQUET GAMES. INCLUDING COURT TENNIS, PADDLE TENNIS*	223
5	796.35	*BALL DRIVEN BY CLUB, MALLET, BAT*	215

DDC Schedule headings from 796.30-796.39.

OPTIONS:
A DISPLAY TITLES TO LISTED TOPICS
B BROWSE TOPICS RELATED TO LISTED TOPICS
C START OVER
D RETURN TO LIST OF PERSPECTIVES
ENTER LETTER OF YOUR CHOICE:

B

ENTER LINE NUMBER OF LISTED TOPIC:

5

User chooses to browse topics more general than the heading on line 5 with class number 796.35 for "Ball driven by club, mallet, bat, etc."

OPTIONS:
A BROWSE MORE GENERAL TOPICS
B BROWSE MORE SPECIFIC TOPICS
C START OVER

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DOC SEARCH

EXPLANATION

ENTER LETTER OF YOUR CHOICE:

A

LINE	AREA	TOPICS	ITEMS
		ATHLETIC AND OUTDOOR SPORTS AND GAMES	
1	796.1	MISCELLANEOUS GAMES	17
2	796.2	ACTIVE GAMES REQUIRING EQUIPMENT	9
3	796.3	BALL GAMES	1042
4	796.4	ATHLETIC EXERCISES AND GYMNASTICS	465
5	796.5	OUTDOOR LIFE	145
6	796.6	CYCLING. INCLUDING LAND SAILING	79
7	796.7	DRIVING MOTOR VEHICLES	188
8	796.8	COMBAT SPORTS	201
9	796.9	ICE AND SNOW SPORTS	195

DDC Schedule headings from 796.0-796.9.

OPTIONS:
A DISPLAY TITLES TO LISTED TOPICS
B BROWSE TOPICS RELATED TO LISTED TOPICS
C START OVER
D RETURN TO LIST OF PERSPECTIVES
ENTER LETTER OF YOUR CHOICE:

B

ENTER LINE NUMBER OF LISTED TOPICS:

3

User chooses to browse topics more general than the heading on line 3 with class number 796.3 for "Ball Games."

OPTIONS:
A BROWSE MORE GENERAL TOPICS
B BROWSE MORE SPECIFIC TOPICS
C START OVER
ENTER LETTER OF YOUR CHOICE:

A

LINE	AREA	TOPICS	ITEMS
		RECREATIONAL AND PERFORMING ARTS	
1	791	PUBLIC PERFORMANCES OTHER THAN MUSICAL, SPORT AND GAME PERFORMANCES	949
2	792	THEATER (STAGE PERFORMANCES)	806
3	793	INDOOR GAMES AND AMUSEMENTS	502
4	794	INDOOR GAMES OF SKILL. INCLUDING COMPUTER GAMES	191
5	795	GAMES OF CHANCE. INCLUDING GAMBLING	1205
6	796	ATHLETIC AND OUTDOOR SPORTS AND GAMES	2341
7	797	AQUATIC AND AIR SPORTS	433
8	798	EQUESTRIAN SPORTS AND ANIMAL RACING	671
9	799	FISHING, HUNTING, SHOOTING	787

DDC Schedule headings from 791-799.

OPTIONS:
A DISPLAY TITLES TO LISTED TOPICS
B BROWSE TOPICS RELATED TO LISTED TOPICS
C START OVER
D RETURN TO LIST OF PERSPECTIVES

Menu options at this point in APL DOC search. User chooses option C to start over.

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DOC SEARCH	EXPLANATION
ENTER LETTER OF YOUR CHOICE: *C* *LOOKING FOR:* 1. *SUBJECT* 2. *CALL NUMBER* 3. *TITLE* 4. *END* *ENTER NUMBER OF YOUR CHOICE:* 4 *BYE*	The initial menu options for beginning searches are listed. User chooses option 4 to end the APL DOC search.

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Appendix C. Two Examples of SOC Records
from University of Illinois

1 OF 2	
CALL NUMBER	515.53 M24s, 1948
TITLE	Spherical harmonics; an elementary treatise on harmonic functions, with applications
LC SUBJECT	Spherical harmonics Harmonic functions
AUTHOR	MacRobert, Thomas Murray, 1884-
PUBLISHER	New York, Dover Publications, 1948
2 OF 2	
CALL NUMBER	515.53 Sh8n
TITLE	Numerical solution of Laplace's and Poisson's equations with applications to photoelasticity and torsion
LC SUBJECT	Harmonic functions Photoelasticity Torsion
AUTHOR	Shortly, George Hiram, 1910- Weller, Royal Fried, Bernard
PUBLISHER	Columbus, College of Engineering, The Ohio State University, 1940
SERIES	The Ohio State University, the Engineering Experiment Station. Bulletin no. 107. September, 1940 The Ohio State University Studies. Engineering Series. vol. IX, no. 5, September, 1940

Appendix D. Two Examples of DOC Records
from University of Illinois

1 OF 2	
CALL NUMBER	515.35 K119m
TITLE	Multiple scattering processes: inverse and direct
LC SUBJECT	Inverse problems (Differential equations) Initial value problems Scattering (Physics)
DEWEY SUBJECT	Differential calculus and equations. Differential equations.
DEWEY INDEX	Boundary-value problems Boundary-value problems--differential equations Differential--equations
AUTHOR	Kagiwada, Harriet H., 1937- Kalaba, Robert E. Ueno, Sueo, 1911-
PUBLISHER	Reading, Mass.#: Addison-Wesley Pub. Co., Advanced Book Program, 1975
SERIES	Applied mathematics and computation

2 OF 2	
CALL NUMBER	515.42 H16, 1956
TITLE	Lectures on ergodic theory
LC SUBJECT	Ergodic theory
DEWEY SUBJECT	Integral calculus and equations. Theory of measure and integration.
DEWEY INDEX	Ergodic theory Integration--theory--calculus Measure theory--calculus
AUTHOR	Halmos, Paul Richard, 1914-
PUBLISHER	New York, Chelsea Pub. Co., c1956
SERIES	Publications of the Mathematical Society of Japan

Dewey Decimal Classification Online Project: Interim Report to the Council on Library Resources

February 1985

by

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Background

The Dewey Decimal Classification (DDC) Online Project, which is supported by The Council on Library Resources, Forest Press, and OCLC, focuses on implementing and testing the DDC as an online searcher's tool for subject access, browsing, and display in an online catalog. The machine-readable DDC that is used in this research project was converted from the print tapes that originally served to produce the 19th edition of the printed DDC using computerized photocomposition. Two features of the DDC are employed to aid online catalog searchers to match their subject terminology with an online catalog's terminology: (1) the subject terminology in the DDC Schedules (e.g., headings, scope notes, class here notes, including notes, etc.) and the DDC Relative Index, and (2) the hierarchical arrays of related terminology in the DDC Schedules. Through these subject terminologies, online catalog users have much more subject information (i.e., subject headings and title terms from bibliographic records) with which to match search terms and to browse for better terms to express topics than is presently available in online catalogs.

In the research project, these two subject terminologies are incorporated into an online catalog as searchers' tools for subject access, browsing, and display. The effectiveness of this DDC in an online catalog is tested in online retrieval experiments with library patrons and staff at the Library of Congress (LC), New York State Library (NYSL), Public Library of Columbus and Franklin County (PLCFC) (Ohio), and University of Illinois at Urbana-Champaign (UI).

The research effort comprises twelve distinct activities. These activities appear in flowchart form in figure 1. At the present time, the DDC Online Project Team is working simultaneously on activities 6 and 7, i.e., designing, testing, and implementing software to provide subject access, browsing, and display of the DDC in the experimental online catalogs for the Mathematics Library of the University of Illinois at Urbana-Champaign, Main Library of the Public Library of Columbus and Franklin County, Library of Congress, and New York State Library (Activity 6), and making preparation for retrieval experiments with the library patrons and staff of these four libraries (Activity 7). The discussion in this report is organized according to the two activities (activities 6 and 7) on which the DDC Online Project Team has worked during the granting period September 1984 to February 1985.

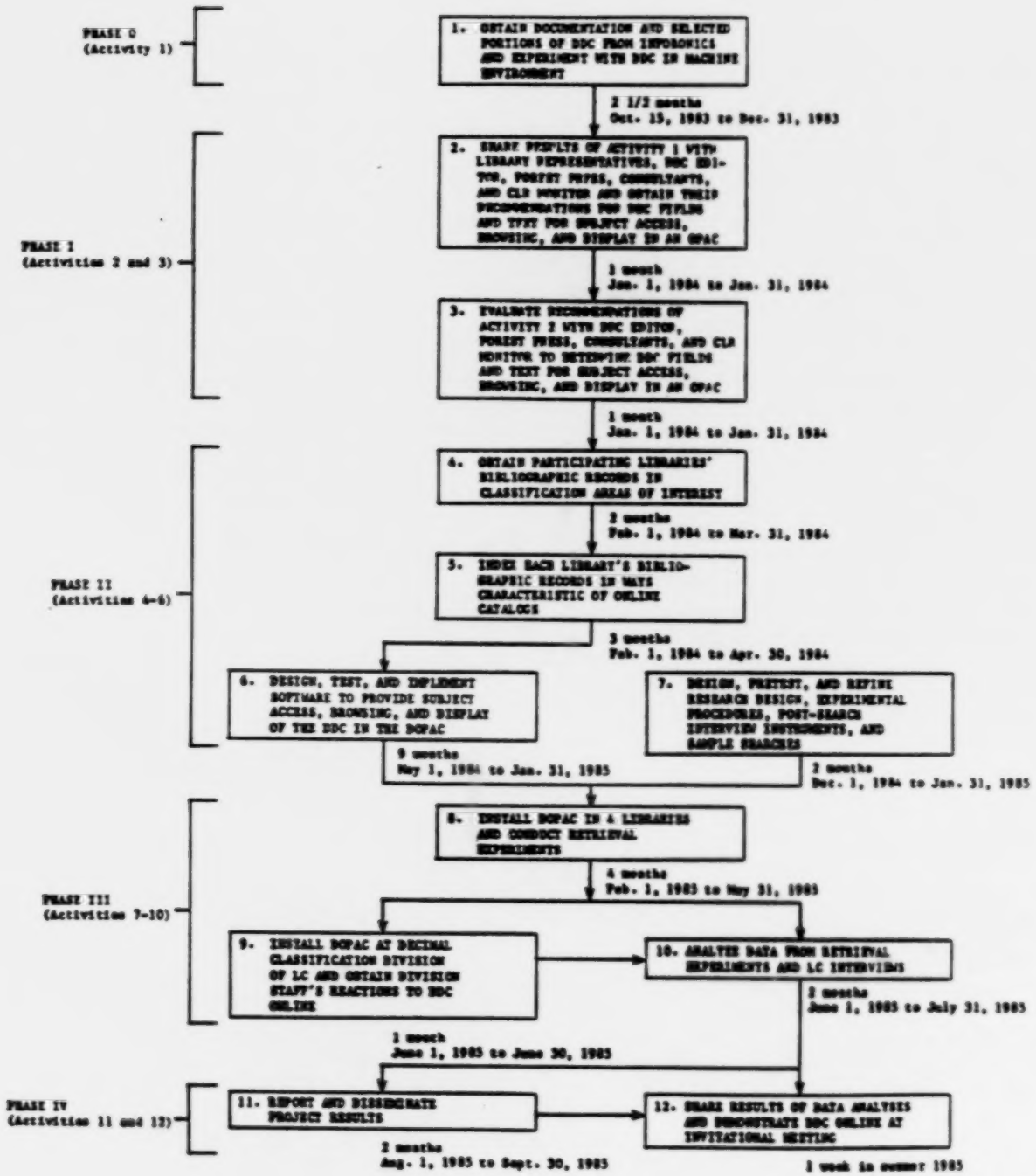
PHASE O
(Activity 1)
1. OBTAIN DOCUMENTATION AND SELECTED PORTIONS OF DDC FROM INFORONICS AND EXPERIMENT WITH DDC IN MACHINE ENVIRONMENT
2 1/2 months
Oct. 15, 1983 to Dec. 31, 1983
PHASE I
(Activities 2 and 3)
2. SHARE RESULTS OF ACTIVITY 1 WITH LIBRARY REPRESENTATIVES, DDC EDITOR, FOREST PRESS, CONSULTANTS, AND CLR MONITOR AND OBTAIN THEIR RECOMMENDATIONS FOR DDC FIELDS AND TEXT FOR SUBJECT ACCESS, BROWSING, AND DISPLAY IN AN OPAC
1 month
Jan. 1, 1984 to Jan. 31, 1984
3. EVALUATE RECOMMENDATIONS OF ACTIVITY 2 WITH DDC EDITOR, FOREST PRESS, CONSULTANTS, AND CLR MONITOR TO DETERMINE DDC FIELDS AND TEXT FOR SUBJECT ACCESS, BROWSING, AND DISPLAY IN AN OPAC
1 month
Jan. 1, 1984 to Jan. 31, 1984
PHASE II
(Activities 4-6)
4. OBTAIN PARTICIPATING LIBRARIES' BIBLIOGRAPHIC RECORDS IN CLASSIFICATION AREAS OF INTEREST
2 months
Feb. 1, 1984 to Mar. 31, 1984
5. INDEX EACH LIBRARY'S BIBLIOGRAPHIC RECORDS IN WAYS CHARACTERISTIC OF ONLINE CATALOGS
3 months
Feb. 1, 1984 to Apr. 30, 1984
6. DESIGN, TEST, AND IMPLEMENT SOFTWARE TO PROVIDE SUBJECT ACCESS, BROWSING, AND DISPLAY OF THE DDC IN THE DOPAC
7. DESIGN, PRETEST, AND REFINE RESEARCH DESIGN, EXPERIMENTAL PROCEDURES, POST-SEARCH INTERVIEW INSTRUMENTS, AND SAMPLE SEARCHES
9 months
May 1, 1984 to Jan. 31, 1985
2 months
Dec. 1, 1984 to Jan. 31, 1985
PHASE III
(Activities 7-10)
8. INSTALL DOPAC IN 4 LIBRARIES AND CONDUCT RETRIEVAL EXPERIMENTS
4 months
Feb. 1, 1985 to May 31, 1985
9. INSTALL DOPAC AT DECIMAL CLASSIFICATION DIVISION OF LC AND OBTAIN DIVISION STAFF'S REACTIONS TO DDC ONLINE
10. ANALYZE DATA FROM RETRIEVAL EXPERIMENTS AND LC INTERVIEWS
2 months
June 1, 1985 to July 31, 1985
1 month
June 1, 1985 to June 30, 1985
PHASE IV
(Activities 11 and 12)
11. REPORT AND DISSEMINATE PROJECT RESULTS
12. SHARE RESULTS OF DATA ANALYSIS AND DEMONSTRATE DDC ONLINE AT INVITATIONAL MEETING
2 months
Aug. 1, 1985 to Sept. 30, 1985
1 week in summer 1985

Figure 1. Flowchart of Project Activities

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Design, test, and implement software to provide subject access, browsing, and display of the DDC in the experimental online catalogs.

Fields for indexing in SOC and DOC are listed in tables 1 and 2. (SOC refers to Subject Online Catalog, the experimental online catalog without the DDC as a user's tool for subject access, browsing, and display; DOC refers to the Dewey Online Catalog, the experimental online catalog with the DDC as such a user's tool.) The following descriptions of SOC and DOC searching clarifies the various indexing methods (i.e., keyword or phrase indexing) and browsing techniques applied to the contents of indexed fields.

Searching the Subject Online Catalog (SOC)

The process of SOC searching is evident in the option menus for SOC searchers in figure 2. Except for Menu 1 in figure 2, the options listed in the menu boxes appear on the bottom of the screen, informing the user of possible next options. SOC users can only select from the menu of options listed to continue the search. Menu 1 is the first screen encountered by SOC searchers (except for the Review Sets [RS] option).

When a SOC user begins his search, he has a choice of searching alphabetically (SA), obtaining a list of alphabetically arranged subject headings in response to an entered subject access point; searching directly (SD), obtaining a report of the number of citations containing his entered access points; or searching for call number (figure 2, Menu 1). Thus, the SOC user has the following options when initiating a search in SOC:

SA Search alphabetically for subject
SD Search directly for subject
SC Search for call number
ES End search

Should a SOC user select option SA, search alphabetically for subject, and enter a subject access point that is not indexed in the system, SOC still responds to the user with a list of alphabetically arranged subject headings and a message indicating where the user's term would have been listed had it been indexed in SOC. The SOC user can browse backward or forward in this list of subject headings, select option SL to display bibliographic records containing one or more of the listed headings, or select option SD to search directly for the terms just entered using the SA option (figure 2, Menu 2). A SOC user who selects option SD does not need to reenter his search terms; rather, SOC has retained these terms and automatically performs a keyword search of bibliographic records' title, subject, selected note, and series fields for these terms. SOC responds to the searcher with a report of the number of records retrieved; the user can then select option SL to display retrieved bibliographic records or option SO to start over and enter new subject access points into the Subject Online Catalog (figure 2, Menu 3).

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Table 1. OCLC/MARC Fields and Subfields for Indexing and Displaying in the Experimental Subject Online Catalog

FIELD TYPE	SOURCE	DISPLAY	SEARCH	NOTE
DDC call number	099a or 092a,b or 082a	CALL NUMBER	n/a	for UI
	099a or 092a,b or 082a	CALL NUMBER	n/a	for PLCFC
	992a,b	CALL NUMBER	n/a	for NYSL
	082a	DEWEY NUMBER	n/a	for LC
DDC class number	DDC call number	n/a	SC	*
LC class number	050a,b,d	CALL NUMBER	n/a	for LC only
Collection	998a	COLLECTION	n/a	for NYSL only
Title	245a,b,n,p	TITLE	SD	
Alternate title	130a,t,n,p,s	ALTERNATE TITLE	SD	
	240a,p,s			
	241a			
	242a,b			
	730a,p,s			
Title added	740a,b	n/a	SD	
Subject headings	600a,q,b,c,d,x,y,z	LC SUBJECT	SD,SA	*
	610a,b,n,d,c,x,y,z			
	611a,q,b,n,d,c,e,x,y,z			
	630a,t,n,p,s,x,y,z			
	650a,b,x,y,z			
	651a,b,x,y,z			
	652a,x,y,z			
	690a,b,x,y,z			
	691a,b,x,y,z			
	692a,x,y,z,b,c			
	693a,b,x,y,z			
	694a,b,q,n,d,c,e,x,y,z			
	695a,n,p,s,x,y,z			
Genre	655a,x,y,z	n/a	SD	
Subheading	700t	n/a	SD	
	710t			
Contents	505a	CONTENTS	SD	
	520a			
Author	100a,q,b,c,d	AUTHOR	n/a	
	110a,q,b,n,d,c			
	700a,q,c,d			
	710a,q,b,n,d,c			
Sponsor	111a,q,b,n,d,c	SPONSOR	SD	
	711a,q,b,n,d,c			
Edition	250a	EDITION	n/a	
Publisher	260a,b,c	PUBLISHER	n/a	
Series	440a,p	SERIES	SD	
	490a			
Series title	400t	n/a	SD	
	410t			
	411t			
Series added	830a,p	n/a	SD	

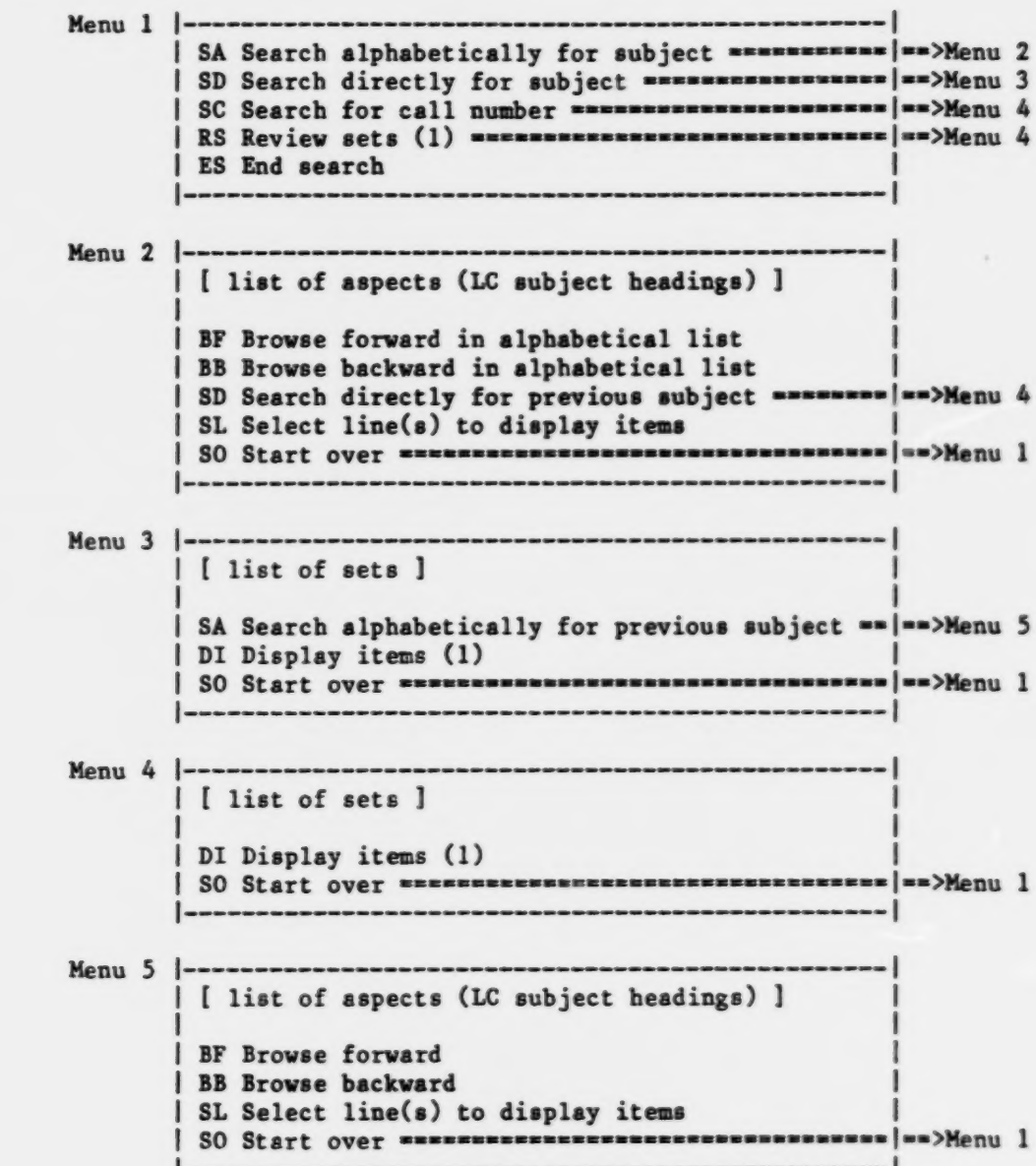
*Different from DOC

Table 2. OCLC/MARC Fields and Subfields for Indexing and Displaying in the Experimental Dewey Online Catalog

FIELD TYPE	SOURCE	DISPLAY	SEARCH	NOTE
DDC call number	099a or 092a,b or 082a	CALL NUMBER	n/a	for UI
	099a or 092a,b or 082a	CALL NUMBER	n/a	for PLCFC
	992a,b	CALL NUMBER	n/a	for NYSL
	082a	DEWEY NUMBER	n/a	for LC
DDC class number	DDC call number	n/a	SC	*
LC class number	050a,b,d	CALL NUMBER	n/a	for LC only
Collection	998a	COLLECTION	n/a	for NYSL only
Title	245a,b,n,p	TITLE	SD	
Alternate title	130a,t,n,p,s	ALTERNATE TITLE	SD	
	240a,p,s			
	241a			
	242a,b			
	730a,p,s			
Title added	740a,b	n/a	SD	
Subject headings	600a,q,b,c,d,x,y,z	LC SUBJECT	SD,SS	*
	610a,b,n,d,c,x,y,z			
	611a,q,b,n,d,c,e,x,y,z			
	630a,t,n,p,s,x,y,z			
	650a,b,x,y,z			
	651a,b,x,y,z			
	652a,x,y,z			
	690a,b,x,y,z			
	691a,b,x,y,z			
	692a,x,y,z,b,c			
	693a,b,x,y,z			
	694a,b,q,n,d,c,e,x,y,z			
	695a,n,p,s,x,y,z			
Genre	655a,x,y,z	n/a	SD	
Subheading	700t	n/a	SD	
	710t			
DDC main caption	DDC Schedules	DEWEY SUBJECT	SD,SS	*
DDC notes	DDC Schedules	n/a	SD,SS	*
DDCRI entry	DDC Relative Index	n/a	SD,SS,SA	*
Contents	505a	CONTENTS	SD	
	520a			
Author	100a,q,b,c,d	AUTHOR	n/a	
	110a,q,b,n,d,c			
	700a,q,b,c,d			
	710a,q,b,n,d,c			
Sponsor	111a,q,b,n,d,c	SPONSOR	SD	
	711a,q,b,n,d,c			
Edition	250a	EDITION	n/a	
Publisher	260a,b,c	PUBLISHER	n/a	
Series	440a,p	SERIES	SD	
	490a			
Series title	400t	n/a	SD	
	410t			
	411t			
Series added	830a,p	n/a	SD	

*Different from SOC

Menu Screens: Subject Online Catalog


Menu 1
SA Search alphabetically for subject ==>Menu 2
SD Search directly for subject ==>Menu 3
SC Search for call number ==>Menu 4
RS Review sets (1) ==>Menu 4
ES End search
Menu 2
[list of aspects (LC subject headings)]
BF Browse forward in alphabetical list
BB Browse backward in alphabetical list
SD Search directly for previous subject ==>Menu 4
SL Select line(s) to display items
SO Start over ==>Menu 1
Menu 3
[list of sets]
SA Search alphabetically for previous subject ==>Menu 5
DI Display items (1)
SO Start over ==>Menu 1
Menu 4
[list of sets]
DI Display items (1)
SO Start over ==>Menu 1
Menu 5
[list of aspects (LC subject headings)]
BF Browse forward
BB Browse backward
SL Select line(s) to display items
SO Start over ==>Menu 1

(1) Shown only if there is at least one set.

Figure 2. Options for SOC searchers during the online search process

1 OF n

CALL NUMBER .....
COLLECTION (for NYSL only) .....
TITLE .....
ALTERNATE TITLE .....
LC SUBJECT .....
CONTENTS .....
AUTHOR .....
SPONSOR .....
EDITION .....
PUBLISHER .....
SERIES .....

Figure 3. Order of and field labels in SOC bibliographic record displays for UI, NYSL, and PLCFC records

LC CALL NUMBER .....
TITLE .....
ALTERNATE TITLE .....
LC SUBJECT .....
CONTENTS .....
DEWEY NUMBER .....
AUTHOR .....
SPONSOR .....
EDITION .....
PUBLISHER .....
SERIES .....

Figure 4. Order of and field labels in SOC bibliographic record display for LC records

SOC allows users to enter Dewey Decimal Classification numbers with the option SC, search for call number. SOC treats the class number as if it had been truncated, and, thus, retrieves records with the exact class number entered and class numbers beginning with the entered number. For example, the user inputting the class number 248.2 retrieves records assigned classification numbers 248.2 and 248.2460924.

In the column entitled "Source" in table 1 are listed OCLC/MARC record fields and subfields selected for indexing and/or displaying in the Subject Online Catalog. In the column entitled "Search" are listed the SOC searchable indexes into which the contents of listed fields and subfields are processed. For example, the contents of 650 fields, in particular a, b, x, y, and z subfields, are processed into indexes for searching alphabetically (SA) and searching directly (SD). In the column entitled "Display" are listed the names of the data in listed fields and subfields when the data are displayed in bibliographic records. For example, data in the 260 fields, in particular a, b, and c subfields, are not processed into any searchable indexes but are displayed in a field labeled "Publisher" in bibliographic record displays.

Listed in figure 3 are the field labels in the order of their appearance in a SOC bibliographic record display for records from the University of Illinois at Urbana-Champaign libraries, New York State Library, and the Public Library of Columbus and Franklin County. Figure 4 lists the field labels in the order of their appearance in a SOC bibliographic record display for records from the Library of Congress. Note that both LC classification and Dewey Decimal Classification numbers are listed because books are labeled and shelved at LC with LC classification numbers.

Figure 5 is an actual list of assigned subject headings that was produced when the user-entered access point "Multivariate Analysis" was entered and the SA (search alphabetically for subject) option was selected in SOC for the University of Illinois. Figure 6 is SOC's response to the user-entered access point "Multivariate Analysis" and the SD (search directly for subject) option in SOC. SOC provides intermediate results of the number of items retrieved by each word in the user-entered access point and gives the number of items retrieved by the logical combination of the intermediate results. SOC performs a keyword search of title, subject, selected note, and series fields and combines the results through an implicit Boolean AND operation. Figure 7 is SOC's response to the user-entered access point 519.5 and the SC (search for call number) option in SOC. SOC performs a keyword search of the call number field and reports the number of items retrieved bearing the user-entered class number or

```
What would you like to do? >sa
Enter subject to search > multivariate analysis

>>>>> YOUR REQUEST ... sa:multivariate analysis

LINE ITEMS TOPICS--ASPECTS
    A     1 Multiprocessors
    B     1 Multivariance analysis--Tables, etc.
  * C    13 Multivariate analysis
    D     1 Multivariate analysis--Addresses, essays, lectures
    E     1 Multivariate analysis--Congresses
    F     1 Multivariate analysis--Problems, exercises, etc
    G     1 Munitions--United States--Congresses
    H     1 Muskhelishvili, N. I--(Nikolai Ivanovich)--1891-
    I     1 Mysticism
    J     1 Napier Tercentenary Exhibition, Edinburgh

OPTION    DESCRIPTION
    BF    Browse forward
    BB    Browse backward
    SD    Search directly for "multivariate analysis"
    SL    Select line(s) to display items
    SO    Start over
```

Figure 5. List of alphabetically arranged assigned subject headings and options in a SOC alphabetical search for "Multivariate Analysis"

```
What would you like to do? > sd
Enter subject to search > multivariate analysis

>>>>> YOUR REQUEST ... sd:multivariate analysis
       21 ITEMS FOR "multivariate"
      454 ITEMS FOR "analysis"
       17 ITEMS IN SET 1  (multivariate analysis)

THE FOLLOWING IS A SUMMARY OF YOUR SEARCHES:
SET  ITEMS    REQUEST
  1     17    sd:multivariate analysis

OPTION  DESCRIPTION
    SA  Search alphabetically for "multivariate analysis"
    DI  Display items
    SO  Start over
```

Figure 6. Number of retrieved items and options in a SOC direct search for "Multivariate Analysis"

```
What would you like to do? > sc
Enter call number (between 510 and 519.86) to search > 519.5

>>>>> YOUR REQUEST ... sc:519.5
      241 ITEMS IN SET 1  (519.5)

THE FOLLOWING IS A SUMMARY OF YOUR SEARCHES:
SET  ITEMS    REQUEST
  1    241    sc:519.5

OPTION  DESCRIPTION
    DI  Display items
    SO  Start over
```

Figure 7. Number of retrieved items and options in a SOC call number search for "519.5"

items whose class numbers begin with the user-entered class number; for example, the user-entered class number 519.5 would retrieve items bearing the exact number 519.5 and items bearing class number 519.535.

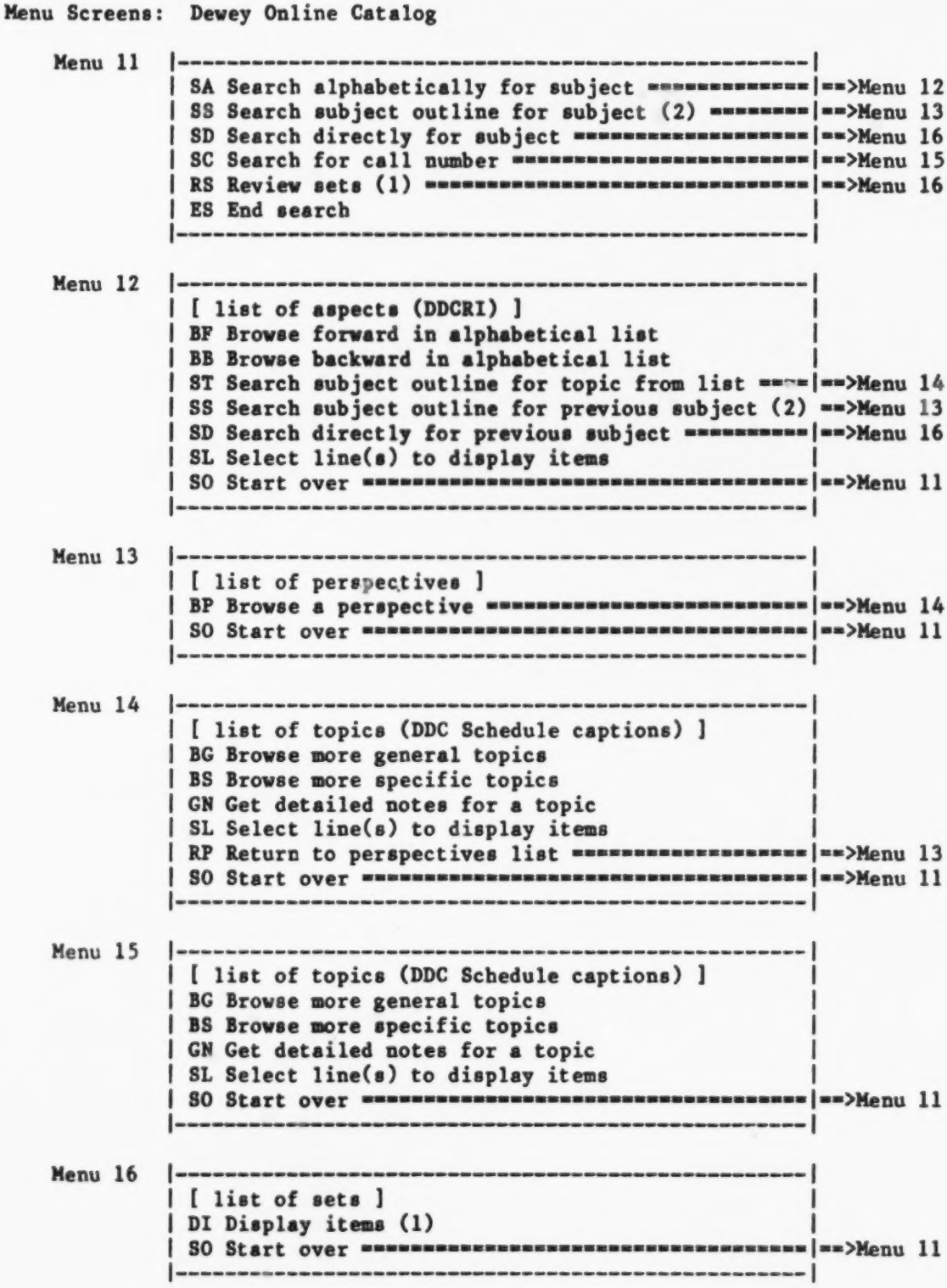
Searching the Dewey Online Catalog (DOC)

When a DOC user begins searching, there are choices for performing a search alphabetically (i.e., obtaining a list of alphabetically arranged Relative Index entries in response to an entered subject access point), for performing a search of the DOC Schedule outlines (i.e., obtaining a report of the classification areas where there are records containing the entered terms), for performing a search directly (i.e., obtaining the number of items retrieved by the user-entered access point through a keyword and implicit Boolean search), and for performing a call number search. Thus, the DOC user has these options when initiating a search:

SA	Search alphabetically for subject
SS	Search subject outline for subject
SD	Search directly for subject
SC	Search for call number
ES	End search

The process of DOC searching is evident in the option menus for DOC searchers in figure 8. Except for Menu 11 in figure 8, the options listed in the menu boxes appear on the bottom of the screen to inform the user of possible next options. DOC users can only select from the option menu listed to further the action of the search. Except for the Review Sets (RS) option, Menu 11 in figure 8 is the initial screen encountered by DOC searchers. A DOC user who performs a search alphabetically (SA) obtains a list of Relative Index entries and can browse forward or backward in this list (see figure 9 for an example of the alphabetical display), or select option SL to display bibliographic records containing one or more of the listed entries. The user can select option ST, search subject outline for a topic, which directs the user to the classification area listed in the printed DDC Relative Index. DOC then lists headings from the classification schedules and presents the user with a list of options for browsing headings in the classification schedules (figure 8, Menu 15). Consultant Cochrane recommended option ST, search subject outline for topic, to the DDC Online Project Team to enable DOC users to access the DDC Relative Index online in an approach comparable to the one employed by users of the printed DDC Relative Index, i.e., to be directed from the alphabetical lists of the Relative Index to the logical lists of the DDC Schedules.

Menu Screens: Dewey Online Catalog


Menu 11
SA Search alphabetically for subject ==>Menu 12
SS Search subject outline for subject (2) ==>Menu 13
SD Search directly for subject ==>Menu 16
SC Search for call number ==>Menu 15
RS Review sets (1) ==>Menu 16
ES End search
Menu 12
[list of aspects (DDCRI)]
BF Browse forward in alphabetical list
BB Browse backward in alphabetical list
ST Search subject outline for topic from list ==>Menu 14
SS Search subject outline for previous subject (2) ==>Menu 13
SD Search directly for previous subject ==>Menu 16
SL Select line(s) to display items
SO Start over ==>Menu 11
Menu 13
[list of perspectives]
BP Browse a perspective ==>Menu 14
SO Start over ==>Menu 11
Menu 14
[list of topics (DDC Schedule captions)]
BG Browse more general topics
BS Browse more specific topics
GN Get detailed notes for a topic
SL Select line(s) to display items
RP Return to perspectives list ==>Menu 13
SO Start over ==>Menu 11
Menu 15
[list of topics (DDC Schedule captions)]
BG Browse more general topics
BS Browse more specific topics
GN Get detailed notes for a topic
SL Select line(s) to display items
SO Start over ==>Menu 11
Menu 16
[list of sets]
DI Display items (1)
SO Start over ==>Menu 11

(1) Shown only if there is at least 1 set
(2) Menu 14 if there is only 1 perspective

Figure 8. Options for DOC searchers during the online search process

```
What would you like to do? > sa
Enter subject to search > multivariate analysis

>>>>> YOUR REQUEST ... sa:multivariate analysis

LINE ITEMS TOPICS--ASPECTS
   A     1 Multiplication--arithmetic
   B    14 Multistage programming--mathematics
     *** YOUR SUBJECT WAS NOT FOUND. PLEASE TRY ANOTHER SEARCH OPTION ***
   C    13 Multivariate analysis--statistical mathematics
   D    15 n
   E    15 n-ary invariants algebra
   F    66 Nets (mathematics)
   G     6 Nets (mathematics)--combinatorial topology
   H     7 Neumann function
   I    60 Nilpotent algebras and groups
   J   161 Non-Euclidean geometries

OPTION  DESCRIPTION
    BF  Browse forward
    BB  Browse backward
    ST  Search subject outline for a topic from the list
    SS  Search subject outline for "multivariate analysis"
    SD  Search directly for "multivariate analysis"
    SL  Select line(s) to display items
    SO  Start over
```

Figure 9. List of alphabetically arranged Relative Index entries and options in a DOC alphabetical search for "Multivariate Analysis"

There is also option SS, which allows the user to search subject outlines composed of captions from the DDC Schedules for the terms just entered (figure 8, Menu 12). A DOC user who selects option SS after an alphabetical subject search using the SA option does not need to reenter search terms; rather, DOC has retained these terms and automatically performs a keyword and implicit Boolean search of the first subject heading listed in bibliographic records' subject fields and fields added to the bibliographic record containing terms from the DDC Schedules and Relative Index. DOC responds to the user with an intermediate list of perspectives or headings representing the classification areas where there are books whose bibliographic records contain the user-entered terms (figure 8, Menu 13). DOC users can select from this list of perspectives (which are headings from the DDC Schedules from the level of three digits to the left of the decimal point) using the BP option to scan a list of topics at the exact level of the DDC where there are books whose bibliographic records contain the user-entered terms.

When the user reaches the exact level of the DDC where there are books whose bibliographic records contain the user-entered terms, the result is a list of class numbers and captions from the DDC Schedules (see figure 10). A user scanning this list can select any one of the topics listed to browse a list of topics more general than those listed and more specific than those listed (figure 8, Menu 14). Or, the user can get notes from the DDC Schedules to find out more subject information about a listed topic. This information may be an example note, including note or class here note, or a general note, such as a scope note. Unfortunately, this information could not fit on the screen with the DDC Schedule captions because of the limitations of a screen supporting 80 characters per line and 23 lines per screen. Based on consultative advice, the DDC Online Project Team found it necessary to provide an option (GN option) to display additional subject information for a heading from the DDC Schedules which could not fit on the screen containing a list of DDC Schedule captions. DOC users can also select a caption using the SL option to display bibliographic records in shelflist order. Postings included in lists of topics, i.e., captions from the DDC Schedules, are cumulative. Thus, the postings indicate the number of books assigned, the exact number listed, and the number of books assigned a class number beginning with the number listed. Figure 10 is an example of an actual display of DDC Schedule headings and menu options from a DOC search of subject outlines.

Users can also perform subject searches by choosing the SD option at the beginning of a search or immediately following the list of Relative Index entries after choosing the SA option for subject searches. This direct subject search acts similarly to the direct subject search in SOC, i.e., DOC provides intermediate results of the number of items retrieved by each word in the user-entered access point and gives the number of items retrieved by the logical combination of the intermediate results. DOC performs a keyword search of title, subject, selected note, and series fields, and fields added to bibliographic records from the DDC Schedules and Relative Index. The difference between the direct subject search in SOC and this search in DOC is that the latter includes keyword searches of the contents of fields added to bibliographic records from the DDC Schedules and Relative Index. Figure 11 shows DOC's response to the user-entered access point "Multivariate Analysis."

DOC allows users to enter Dewey Decimal Classification numbers with the option SC, i.e., search for call number. Unlike SOC, which merely reports the number of books assigned the exact class number and the number of books assigned a class number beginning with the number listed, DOC responds with: (1) a list of topics (or headings) from the DDC Schedules at the same level in the hierarchy as the entered class number; and (2) a list of options that allows the user to browse more general or specific headings, to get more information about a listed heading, or to display bibliographic records assigned the heading (figure 8, Menu 15). For example, a user entering class number 519.5 would obtain a list of headings from the DDC Schedules from 519.0 to 519.9 (see figure 12). This approach to searching for call numbers in DOC was suggested to the DDC Online Project Team by consultant Chan.

```
What would you like to do? > ss multivariate analysis

>>>>> YOUR REQUEST ... ss:multivariate analysis

  Please wait ....
YOUR SUBJECT IS TREATED FROM ONLY ONE PERSPECTIVE:

LINE  PERSPECTIVES
   A  Probabilities and applied mathematics.

OPTION  DESCRIPTION
    BP  Browse a perspective
    SO  Start over

What would you like to do? > bp

>>>>> YOUR REQUEST ... bp A

Items about your subject are treated under 519.53 in the following outline.

GENERAL TOPIC : 519.5 Statistical mathematics.
    LINE  ITEMS  LOCATION         TOPIC
       A      3  519.52           Theory of sampling.
       B     53  519.53           Descriptive statistics and multivariate.
       C     28  519.54           Statistical inference.
       D     12  519.55           Time series analysis.
       E      7  519.56           Statistical hypothesis testing.

OPTION  DESCRIPTION
    BG  Browse more general topics
    BS  Browse more specific topics
    GN  Get detailed notes for a topic
    SL  Select line(s) to display items
    RP  Return to perspectives list
    SO  Start over
```

Figure 10. Subject outline of DDC Schedule captions and options in a DOC outline search for "Multivariate Analysis"

In the column entitled "Source" in table 2 are listed OCLC/MARC record fields and subfields selected for indexing and/or displaying in DOC. In the column entitled "Search" are listed the DOC searchable indexes into which the contents of listed fields and subfields are processed. For example, the contents of the DOC Relative Index are processed into indexes for searching alphabetically (SA), searching subject outlines (SS), and searching directly (SD). The column entitled "Display" indicates the name of the data in listed fields and subfields when the data are displayed in bibliographic records. For example, data in field 520, subfield a is only processed into the index for searching directly (SD) and labeled CONTENTS in bibliographic record displays.

```
What would you like to do? > sd
Enter subject to search > multivariate analysis

>>>>> YOUR REQUEST ... sd:multivariate analysis
       62 ITEMS FOR "multivariate"
      743 ITEMS FOR "analysis"
       59 ITEMS IN SET 1  (multivariate analysis)

THE FOLLOWING IS A SUMMARY OF YOUR SEARCHES:
SET  ITEMS    REQUEST
  1     59    sd:multivariate analysis

OPTION  DESCRIPTION
    DI  Display items
    SO  Start over
```

Figure 11. Number of retrieved items and options in a DOC direct search for "Multivariate Analysis"

```
What would you like to do? > sc
Enter call number (between 510 and 519.86) to search > 519.5

>>>>> YOUR REQUEST ... sc:519.5

Items about your subject are treated under 519.5 in the following outline.

GENERAL TOPIC : 519 Probabilities and applied mathematics.
    LINE  ITEMS  LOCATION        TOPIC
       A    142  519.2           Probabilities.
       B     32  519.3           Game theory.
       C     74  519.4           Applied numerical analysis.
       D    241  519.5           Statistical mathematics.
       E     92  519.7           Programming.
       F     23  519.8           Special topics.

OPTION  DESCRIPTION
    BG  Browse more general topics
    BS  Browse more specific topics
    GN  Get detailed notes for a topic
    SL  Select line(s) to display items
    SO  Start over
```

Figure 12. Subject outline of DDC Schedule captions and options in a DOC call number search for "Multivariate Analysis"

Ongoing Review of SOC and DOC

The DDC Online Project Team has consistently obtained reactions from representatives of the four participating libraries, Decimal Classification Division (DCD) staff, Forest Press staff, and project consultants regarding types of indexes, fields for indexing and display, and the overall process of searching the experimental online catalogs. At the first meeting of project participants held at the Library of Congress, it was determined that a prototype of the experimental online catalogs accessible by dial-up terminals would provide all project participants with an opportunity to advise the DDC Online Project Team about indexing, display, and the search process.

The DDC Online Project Team selected OCLC's Sigma CP-V mainframe computing resources and APL programming language as a suitable environment and vehicle for developing the prototype. The prototype was designed, developed, tested, and implemented in spring 1984.

In May 1984, representatives of participating libraries, Dewey Classification Division staff of LC, and project consultants were informed of the prototype through a lengthy sample search, and of the protocol for signing onto CP-V and APL using dial-up terminals through lengthy instructions. Some participants studied the sample searches and accessed the online prototype; others only studied the sample searches. OCLC's Interim Report to CLR dated September 1984 contains examples of the search "Ball Games" in the prototype online catalog without the DDC as a user's tool and with the DDC as a user's tool, respectively.

The response to the APL prototype, particularly from project consultants and participants from the Library of Congress, was overwhelming and forced the DDC Online Project Team to examine decisions about indexing, display, and the search process. Consultant Lois Chan visited OCLC in April 1984 to get a firsthand look at the DDC Online Project Team's design of the experimental online catalogs and to advise the Team about indexing and displaying bibliographic records and searching the catalogs. Consultant Pauline Cochrane responded to printouts of searches of the APL prototype in a lengthy written response. The DDC Online Project Team compiled a list of critical design issues and travelled to the Library of Congress in June 1984 to discuss these issues with Mrs. Cochrane and to resolve them.

In late August 1984, development of the experimental online catalogs on the LSI-11 microprocessor had reached the point where it was feasible to obtain a printout of SOC and DOC searches using a test database of about 150 items. This printout, which showed subject searches in SOC (see Appendix A) and DOC (see Appendix B), was sent to project participants at the four participating libraries, the Decimal Classification Division, Forest Press, and project consultants and was distributed to interested OCLC staff. Review comments were solicited from all participants.

Review comments were collected, analyzed, and summarized (see Appendix C). When it was difficult for the DDC Online Project Team to make a decision about a design issue, project consultants and Decimal Classification Division staff were consulted. One of the most difficult decisions facing the project team was the redundancy and a possibly misleading characteristic of Relative Index entries displayed in bibliographic records (see comments 15 and 34 in Appendix C).

Figure 13 lists the field labels in the order of their appearance in DOC bibliographic record displays for records from the University of Illinois at Urbana-Champaign Mathematics Library, New York State Library, and the Public Library of Columbus and Franklin County. Figure 14 lists the field labels in the order of their appearance in a DOC bibliographic record display for records from the Library of Congress. Initially, terms added to bibliographic records from the Relative Index were processed into a field entitled "Dewey Index" and

1 OF n

CALL NUMBER .....
COLLECTION (for NYSL only) .....
TITLE .....
ALTERNATE TITLE .....
LC SUBJECT .....
DEWEY SUBJECT .....
CONTENTS .....
AUTHOR .....
SPONSOR .....
EDITION .....
PUBLISHER .....
SERIES .....

Figure 13. Order of and field labels in DOC bibliographic record displays for UI, NYSL, and PLCFC records

LC CALL NUMBER .....
TITLE .....
ALTERNATE TITLE .....
LC SUBJECT .....
DEWEY SUBJECT .....
CONTENTS .....
DEWEY NUMBER .....
AUTHOR .....
SPONSOR .....
EDITION .....
PUBLISHER .....
SERIES .....

Figure 14. Order of and field labels in DOC bibliographic record display for LC records

displayed in bibliographic records. However, such added information became redundant in bibliographic records when displayed as a result of DOC subject searches. Plus, a Relative Index entry describes the subject matter of items classed in the area, but that Relative Index entry and others bearing the same DDC number do not necessarily describe all of the subject matter contained in a book classed in that area. Thus, Relative Index entries listed in bibliographic records might mislead searchers by indicating that a retrieved item contains information described by the entry. In fact, Relative Index entries only describe the subject matter of items that are classed in an area. Displayed in a bibliographic record, Relative Index entries describe the possible contents of the item.

Advice from consultants and Decimal Classification Division staff helped the DDC Online Project Team decide to suppress the display of Relative Index entries in bibliographic records. A number of alternatives were proposed, such as displaying Relative Index entries before bibliographic records are displayed by the user and providing users with an option at the end of each display of a bibliographic record to display Relative Index entries. Memory limitations of the hardware used in the DDC Online Project made it impossible to implement such alternatives in this study; however, such alternatives are also recommendations for future implementations of the DDC and library classifications, in general, as users' tools for subject access, browsing, and display in online catalogs.

Besides the decision to suppress the display of Relative Index entries in bibliographic records, major changes to the August 1984 experimental online catalogs affected the label names in detailed note displays of subject information from the DDC Schedules, menu option names, and explanatory online messages accompanying system responses. Comments from the library patrons in the pretest of data collection procedures and instruments in Activity 7 led to additional changes to SOC and DOC before installation at the Mathematics Library of the University of Illinois at Urbana-Champaign.

In Appendix D, a SOC subject search for "Multivariate Analysis" is shown in the experimental online catalog that was installed at the University of Illinois in November and December 1984. In Appendix E, a DOC subject search for "Multivariate Analysis" is shown in the experimental online catalog that was installed at the University of Illinois in November and December 1984. Both subject searches are meant to feature SOC and DOC subject searching capabilities and are not characteristic of library patron or staff searches in these experimental online catalogs. SOC and DOC subject searching features shown in this report (i.e., figs. 5-7 and 9-12) are examples from the experimental catalogs installed at the University of Illinois.

Progress Report on Activity 6

Since the last Interim Report (September 1984), much progress has been made on developing experimental online catalogs for installation and testing at the four participating libraries.

University of Illinois (UI)

As SOC and DOC were being developed, the Project Team continued to receive comments from consultants and participating library reviewers. Based on these comments, changes were made before the experimental online catalogs were installed at the University of Illinois.

After the UI database was completely created, the Project Team found many typing and spelling errors in the database (e.g., "programmming" for "programming," and both "Bessel function" and "Bessel's function" for "Bessel function"). Errors occurring in assigned subject headings would have an adverse effect on searches by library patrons and staff in retrieval tests. The Project Team decided to extract all assigned subject headings from every bibliographic record in the database to correct errors, and, hopefully, eliminate typographical errors in assigned subject headings. Corrections to the classification errors were not done by the Project Team.

When the entire UI database was online, the Project Team discovered that some SS (search subject outline) searches would take over an hour for the system to complete, a response time definitely unacceptable to online searchers. In order to reduce the response time to under one minute, the Project Team decided to index only the keywords in the DDC Schedules and Relative Index entries for the SS subject search, thus eliminating all other fields which had been chosen, such as contents and title.

The UI database and SOC and DOC were thoroughly tested for two weeks by both the Project Team and other OCLC staff before being shipped to UI on November 2, 1984. The database contained 7,603 bibliographic records, 287 DDC captions, and 231 DDCRI entries in DDC areas 510 to 519.

While SOC and DOC were installed at UI and monitored by two members of the Project Team, the rest of the Team at OCLC were always prepared to help if SOC or DOC malfunctioned.

When the retrieval tests with library patrons and staff were completed at the University of Illinois, the DDC Online Project Team analyzed patron and staff responses about searching difficulties. A list of enhancements was compiled. (See section "Enhancements to SOC and DOC" for more detail.) These enhancements were made to SOC and DOC for system installations at the three remaining libraries.

Public Library of Columbus and Franklin County (PLCFC)

While monitoring SOC and DOC at UI in November and December 1984, the Project Team selected the bibliographic records for the PLCFC database and found a few hundred duplicate records based on an analysis of DDC call numbers. However, Richard Palmer advised the team to use every record that was sent. By the time the Midproject Review Board arrived for its meeting on January 21-22, half of the PLCFC database was already available for online searching by board members.

As with the UI database, assigned subject headings were extracted, corrected, and reentered into the PLCFC bibliographic records. The Project Team was also able to use the first-listed subject headings for DOC's SS search. In the PLCFC database, there are bibliographic records that have no subject headings and/or do not match class numbers listed in the Relative Index. This means that there are some bibliographic records in the PLCFC database that cannot be successfully retrieved via the SA subject search in SOC or the SA subject search in DOC.

Typing errors and misspellings can occur anywhere in a bibliographic record. Class numbers mistakes are especially harmful in the experimental online catalogs developed in the DDC Online Project because bibliographic records are augmented with DDC captions and Relative Index entries based on matching DDC class numbers. When the DDC class number is wrong, the DDC captions and DDC Relative Index entries automatically augmented to records are erroneous. For example, a book on the New York Jets Football Team mistakenly classed under 795.332 (instead of 796.332) is automatically assigned the DDC captions "Games of chance" and "Games dependent on drawing numbers or counters" found under DDC class numbers 795.33 and 795.332, respectively, instead of "Inflated ball driven by foot" and "American football" found under DDC class numbers 796.33 and 796.332, respectively.

Errors in DDC classification numbers negatively affect all searches in DOC. In order to eliminate this problem, the errors have to be identified and corrected. The Project Team decided not to correct these errors for the following reasons: (1) identifying the errors is very time-consuming and not sufficiently foolproof; (2) correcting the errors requires either intensive writing of new software to provide SOC and DOC with a local cataloging function; and (3) the time and effort spent on identifying and correcting the errors may not be justified because there may actually be very few errors at the present time and still be unidentified errors in the database at the end of a correction process.

The PLCFC database contained 9,719 bibliographic records (271 of which contained no subject headings), 725 DDC captions, and 348 DDCRI entries in DDC areas 790 to 799.

Library of Congress (LC)

As work was being done for PLCFC, the Project Team started to select the bibliographic records from LC.

Bibliographic records are augmented with DDC information based on their DDC class numbers, and LC-assigned DDC class numbers are very specific (i.e., they contain add-ons from DDC tables and other parts of the schedules). Thus, we anticipate that the augmented information will be somewhat more general in concept than what the DDC class numbers indicate.

There will be approximately 11,839 bibliographic records, 1,722 DDC captions, and 789 DDC Relative Index entries for the LC database in DDC areas 330 to 339, 380 to 382, and 658.

New York State Library (NYSL)

When the project team examined the tapes from NYSL, it discovered that these records were very short, containing data in only a few fields, e.g., title, author, and publisher. After notifying NYSL, the Project Team later received another tape shipment containing different records. A total of 14,425 records were selected from this replacement tape and matched with 183 DDC captions and 162 DDC Relative Index entries.

Activity 7

Design, pretest, and refine research design, experimental procedures, post-search interview instruments, and sample searches.

In early August 1984, the research design, experimental procedures, post-search interview instruments, and miscellaneous data collection forms were drawn up and distributed to consultants Pauline Cochrane and Elliot Siegel. Mrs. Cochrane's review comments were received by the DDC Online Project Team in late August. On October 12, 1984, Janifer Thompson and Karen Markey visited Elliot Siegel in Washington and obtained his reactions to the retrieval tests.

Advice from consultants resulted in the following changes to the retrieval tests and supporting data collection instruments:

a. Increase of sample sizes for both Sample and Comparison Search Experiments.
b. Revision of Sample Search Experiment to resemble Siegel's Sample Search Experiment in which library staff searchers performed relevance assessments of retrieved output.
c. Addition of questions on both questionnaires for Sample and Comparison Search Experiments asking respondents to comment on differences between the two online catalogs used and benefits (or drawbacks) of these differences.
d. Placement of demographic questions at beginning of both questionnaires.
e. Identification of refusals by specific information.
f. Treating the installation of the experimental online catalogs and retrieval tests with library patrons and staff at the University of Illinois as a pretest to allow for significant changes in the experimental online catalogs' user-system interface and indexing of subject information in bibliographic records before installation and testing at the three remaining libraries.

The DDC Online Project Team strongly considered ignoring the advice from consultants regarding treating the installation and testing of the experimental online catalogs at the University of Illinois as a pretest. However, the experimental online catalogs were ready for pretesting on October 29, 1984. Only six individuals who had library staff characteristics were scheduled for pretesting the Sample Search Experiment, and only two individuals who had library patron characteristics were scheduled for pretesting the Comparison Search Experiment in a short three-day time period before the computer equipment had to be packed and shipped to the University of Illinois.

The pretest at OCLC with six library staff and two patrons resulted in the following changes to the user-system interface and retrieval test procedures:

1. Changing the terminology of the SS (search systematically for subject) option in DOC to SS (search subject outline for subject), and changing the terminology of the BT (browse topics) option in DOC to ST (search subject outline for subject).

2. Scheduling library staff for the Sample Search Experiment at two-hour intervals instead of the expected one-and-a-half hour intervals.

3. Reminding library staff in the Sample Search Experiment to try more than one subject search option and to print out retrieved bibliographic records.

Sample Search Experiment Description

In this experiment, 15 library staff (composed of librarians and nonlibrarians who are uninvolved in the design and development of SOC and DOC or the library's automated system, are not experts in searching or frequent searchers of commercial retrieval systems such as BRS or Lockheed's DIALOG, and are not experts in the subject area selected by the library [mathematics at UI, Sports and Performing Arts at PLCFC, commerce and trade and management at LC, and New York State geography and history at NYSL]) are recruited by the participating library liaison to the DDC Online Project and scheduled for taking part in the Sample Search Experiment by the library liaison. Prior to the scheduled time, it is hoped that the searcher will use DOC and SOC at least once to become familiar with the use of the experimental online catalogs. If the searcher has not used SOC and DOC by the scheduled time of the experiment, the interviewer allows the searcher to use the SOC and DOC catalogs for at least 15 minutes prior to the retrieval test.

The 15 searchers are randomly assigned to one of two experimental conditions (DOC/SOC) when scheduled for individual search sessions. Each searcher receives three paired search queries simulating representative search strategies for subject searching in an online catalog, and executes the three paired search queries in SOC and DOC (i.e., a total of six different queries). The search queries are paired by type of search strategy required for obtaining successful search results using the subject search options in the experimental online catalogs and their browsing features. No one searcher ever executes a search for the same query on both SOC and DOC; instead, the search queries are matched. This matching should reduce the carry-over effect of the searcher's performing consecutive searches on two different systems.

The queries for subject searches are selected from a pool of topics collected from patron reference requests by the participating library liaison and a pool of topics suggested to the DDC Online Project Team by subject specialists. Each query undergoes thorough pretesting by the DDC Online Project Team to determine the type of search strategy that the query requires to produce successful results and that would best suit the execution of the query given the searching capabilities allowed by DOC and SOC. The Team then pairs each query with another like it. A searcher receives one set of paired search queries at a time and executes searches on SOC and DOC not to exceed 15 minutes per search for the paired search queries. (See Appendix F for the worksheet, on which paired search topics are listed, presented to, and completed by the library staff respondent.) Upon completion of each search pair, the interviewer asks the library staff member about his experiences searching SOC and DOC. Appendix J is the questionnaire completed by the interviewer throughout the Sample Search Experiment. The respondent then checkmarks the hard copy printouts for relevant items retrieved (in the order in which the paired search queries were executed in DOC and SOC). The searcher has three options: (1) relevant; (2) possibly relevant; and (3) not relevant. When the searcher has completed online searches for all three paired queries, he is asked by the system some general questions about his online searching experiences in SOC and DOC.

Consultant Siegel suggested to the DDC Online Project Team, which was initially concerned about using searchers for performing relevance assessments, that the interviewers tell the searcher at the beginning of the experiment that he (the searcher) will later evaluate items retrieved in the search. In this way, the searcher ought to have a vested interest in the results of the search and take the task of searching more seriously than a searcher who knows that he will not be responsible for evaluating retrieved items. At a later time (after the test), the DDC Online Project Team could ask subject specialists to review the output of selected searches as a validity check on the evaluations of the searchers. Siegel also advised the DDC Online Project Team to include library staff who are nonlibrarians in the experiment. The matching of searches controls for differences in search type. The same searcher performing the same types of searches on both systems equalizes the impact of his searching skills, knowledge, and experience in the analysis.

1. SOURCE OF SEARCH TOPIC: Subject experts and participating libraries

2. DETERMINATION OF SEARCH STRATEGY FOR A QUERY: DDC Online Project Team member(s) who are expert online searchers

3. ONLINE SEARCHER IN SOC: Library staff member

4. ONLINE SEARCHER OF THE SAME QUERY IN DOC: Library staff member who is different from one who executes a SOC search for this query

5. SOURCE OF RELEVANCE ASSESSMENTS: Library staff member who executes the search

6. INTERVIEWER: K. Markey or J. Thompson

7. EXPECTED COMPLETION TIME FOR SEARCHES AND INTERVIEW: 120 minutes

8. DEPENDENT VARIABLES:

   Amount of information retrieved
   Proportion of retrieved items judged relevant (for recall and precision scores)
   Preference for SOC or DOC
   Difficulties using SOC or DOC
   Improvements to SOC and DOC
   Recognition of SOC and DOC differences
   Frequency of SOC and DOC use
   Time to perform SOC and DOC searches

9. INDEPENDENT VARIABLES:

   Search strategy for subject searches
   Frequency of OPAC use
   Frequency of other computer use by library staff searcher
   Professional role of staff searcher in the library
   Subject expertise of library staff searcher

From December 3 to 6, 1984, the DDC Online Project Team conducted the Comparison Search Experiment with 15 library staff of the University of Illinois. There were no difficulties administering the test and obtaining answers to questions. To elicit the search feature(s) of SOC and DOC from library staff participants which led to the retrieval of relevant items, the same two questions that were added to the Comparison Search Experiment Interviewer Questionnaire were added at appropriate places in the Sample Search Questionnaire. After completing online searches for each search pair, the following questions were added to the Sample Search Questionnaire and completed by all respondents at the University of Illinois:

- What capability (or function) of the first catalog you used was most helpful for directing you to information relevant to the topic?

- What capability (or function) of the second catalog you used was most helpful for directing you to information relevant to the topic?

Analysis of the pretest results in Winter 1985 by the DDC Online Project Team could result in more changes to the Sample Search Interviewer Questionnaire and data collection procedures.

Comparison Search Experiment Description

This experiment is more realistic than the Sample Search Experiment because library patrons are searching SOC and DOC with their own search topics and assessing the relevance of retrieved citations. In this experiment, 40 patrons at each of the four participating libraries are asked to conduct a self-initiated search of their own choosing on both SOC and DOC, sequentially. The procedure is that patrons entering the area where the LSI-11 equipment is assembled will be recruited for the experiment. Refusals by patrons are recorded on a tally sheet (see Appendix G). Each participant is assigned to one of two odd/even experimental conditions; odd-numbered participants will begin their search on SOC and even-numbered participants will begin their search on DOC. The interviewer, one member of the same two-person team conducting the Sample Search Experiment, briefly explains the experiment to the patron and asks the patron to complete some demographic questions. The interviewer closely monitors the participants' searches and records them on hardcopy printouts for subsequent analysis for relevance. The interviewers will determine when it is appropriate for the participants to switch systems and repeat their search for their search topic in the other system. After the participant completes online searches for the same search topic in both systems, the interviewer will ask the participant to review the hardcopy printouts (in the same order in which the searches were performed, i.e., SOC first, then DOC, or vice versa), and mark each citation printed with an R for relevant, a P for possibly relevant, or an N for not relevant to the participant's search topic. Then, the interviewer asks the participant questions about his experiences searching the two systems. Appendix K is the questionnaire completed by the interviewer throughout the Comparison Search Experiment.

1. SOURCE OF SEARCH TOPIC: Library Patron

2. ONLINE SEARCHER IN DOC: Library Patron

3. ONLINE SEARCHER OF THE SAME QUERY IN SOC: Library Patron who is the same person who executes a SOC search for this query

4. SOURCE OF RELEVANCE ASSESSMENTS: Library Patron

5. INTERVIEWER: Markey or Thompson

6. ESTIMATED COMPLETION TIME: 35 minutes

7. DEPENDENT VARIABLES:

Amount of information retrieved
Proportion of retrieved items
judged relevant (for recall
and precision scores)
Satisfaction with the online search
Preference for SOC or DOC
Difficulties using SOC and DOC
Improvements to SOC and DOC
Recognition of SOC and DOC differences
Time to perform SOC and DOC searches

8. INDEPENDENT VARIABLES:

Frequency of OPAC use at (UI, NYSL, LC)
Subject area of patron's search
Type of patron search (subject, not
known-item)

From November 5 to 8, 1984, the DDC Online Project Team conducted the Sample Search Experiment with 15 library patrons in the Mathematics Library of the University of Illinois at Urbana-Champaign. The DDC Online Project Team reviewed the results of questionnaire administration and data collection procedures. Sketchy responses by patrons to questions about differences between the two systems and reasons for preferring one experimental catalog over the other led to the addition of two questions. It was hoped that these two questions would elicit from library patrons the search feature(s) of SOC and DOC that led to the retrieval of relevant items. The following questions were added to the Comparison Search Questionnaire:

- What capability (or function) of the first catalog you used was most helpful for directing you to information relevant to the topic?

- What capability (or function) of the second catalog you used was most helpful for directing you to information relevant to the topic?

There was consultation with Mathematics Library staff and Arnold Wajenberg regarding recruitment of library patrons. Four days of recruitment of library patrons resulted in only 15 patron participants. We made a decision to pay library patrons five dollars for participation in the retrieval test.

From November 26 to 29, the DDC Online Project Team resumed recruitment of library patrons. The five-dollar payment was just the incentive needed to recruit 40 library patrons and complete the administration of the Comparison Search Experiment at the University of Illinois. The two-member data collection team worked simultaneously with recruited library patrons and often had as many as three patrons waiting to participate in the experiment.

The DDC Online Project Team will continue to distribute an incentive to recruited library patrons in future administrations of the Comparison Search Experiment. This incentive might not always be a five-dollar payment. Upon the advice of library staff at participating libraries, a library mug or t-shirt may be offered as an incentive.

Analysis of the pretest results in Winter 1985 by the DDC Online Project Team could result in more changes to the Sample Search Interviewer Questionnaire and data collection procedures.

Enhancements to SOC and DOC

The experimental online catalogs were pretested with a handful of library patrons and staff at OCLC in late October and with 15 library staff and 55 patrons at the University of Illinois. The DDC Online Project Team gained considerable experience performing online searches in the experimental catalogs when preparing for the OCLC and Illinois pretests and testing the final versions of the catalogs for installation at Illinois. Based on the pretests and the Team's searching experience, the following enhancements have been added to the experimental online catalogs for installation at the three remaining libraries (Library of Congress, New York State Library, and Public Library of Columbus and Franklin County):

1. DDC Relative Index entries and general note fields have been added to the display of DDC Schedule notes triggered by the GN (get detailed notes for a topic) option.
   REASON: Library patrons and staff were disappointed in the displays triggered by the GN option and wanted more information, especially scope notes, in these displays.

2. If there is only one perspective in DOC as the result of a user-entered access point entered through the SS (search subject outline for subject) option, DOC responds immediately with the specific list of topics.
   REASON: Library staff, in particular, were baffled by the terminology "perspectives" only when the user-entered access point directed them to one perspective. Many restarted the search rather than follow through the course of the search and select the BP (browse a perspective) option to display the specific list of topics.

3. Terms from the subject heading (6XX) fields of bibliographic records have been added to the keyword indexes for the SS option in DOC, thus providing searchers with additional subject access points in the indexes with which to match their entered terms.
   REASON: Technical difficulties encountered in the development of DOC for the University of Illinois have been overcome.

4. Terms from the general note (not) field of the DDC Schedules have been added to the keyword indexes for the SS (search subject outline for subject) option in DOC, thus providing searchers with additional subject access points in the indexes with which to match their entered terms.
   REASON: The general note field is now displayed in DDC Schedule note records (see 1 above); it is usually a scope note and could help some users in subject retrieval.

5. Explanations about lists of subject terms resulting from the SA (search alphabetically for subject) option in SOC and DOC and SS (search subject outline) option in DOC have been added in one or two lines of text preceding the display of terms. Suggested text to precede SA lists of topics and aspects when the user's term is not listed: "Check this list of subjects in alphabetical order. If your subject is not listed, try another search option." Suggested text to precede SA lists of topics and aspects when the user's term is listed: "* Check this list of subjects in alphabetical order." Suggested text to precede SS list of topics: "* Items on your subject are found under xxx.xxx in this outline of related subjects."
REASON: Some library patrons did not know how these lists of terms could possibly help them find library material on a topic. The messages are meant to tell patrons how to use such term lists.

6. Explanations about DDC Schedule notes records added to DOC in one or two lines of text preceding the display of selected fields.
REASON: Library patrons expressed certain expectations about these records (which no library patron had ever seen before in the traditional library catalog or online catalog). For example, they expected these records to give the definition of the DDC caption. An explanatory message with these records tells online searchers how to use the records in the course of their search.

7. Line in SA (search alphabetically for subject) option in SOC and DOC which reads "**Your subject was not found. Please try another search option:**" has been deleted.
REASON: Users whose entered access points almost matched a listed term found this message confusing because a listed term was so close to their term (minus punctuation, plural or singular endings, -ing or -ed endings, etc.). The addition of the message preceding topic and aspects lists (see 5 above) should help users determine how to use these lists.

8. The entire DDC number (i.e., not a DDC number truncated according to the DDC schedules) is indexed in the SC (search for call number) function in SOC. The postings still include all bibliographic records whose DDC class numbers start with the given DDC number.
REASON: SOC developed for the University of Illinois only indexed class numbers which were listed in the 19th edition of DDC, and users entered class numbers that were not listed in the 19th edition but displayed in retrieved bibliographic records.

Midproject Review Board to the DDC Online Project

The Council on Library Resources appointed seven members to a Midproject Review Board to meet at OCLC in Dublin, Ohio, near or at the end of Activity 7. The OCLC Project Team (1) briefed the Review Board on the team's progress; (2) demonstrated the experimental online catalogs as an online searcher's tool for subject access, browsing, and display; (3) invited board members to use the online catalogs as such a tool on their own, i.e., without an intermediary present; and (4) reported the preliminary findings of the retrieval experiments' pretest.

The charge of the Midproject Review Board as identified in OCLC's proposal to CLR was to advise the OCLC Project Team about (1) implementation of the DDC as an online searcher's tool for subject access, browsing, and display in an online catalog; (2) the retrieval experiments, e.g., research design, data collection procedures and instruments, sample search tapes, etc.; and (3) substantive areas that they would like covered in the final report to CLR by the DDC Online Project Team.

Prior to the visit of the Midproject Review Board on January 21 and 22, 1985, the DDC Online Project Team distributed an agenda, list of participants, and notebook of supporting materials enumerated in the agenda to Board members and Forest Press participants to the Board meeting. The agenda and list of participants are given in appendixes H and I, respectively, of this report.

Planning for Future Activities

During the 1985 Midwinter Conference of the American Library Association, Karen Markey provided project participants with an update of the DDC Online Project's progress and focused on the installation and testing of the experimental online catalogs at the University of Illinois to prepare participants in attendance for installation and testing of the experimental online catalogs at their libraries. Participants from the University of Illinois, Library of Congress, and New York State Library were in attendance and expressed their concerns about the upcoming installation and retrieval tests. Karen Markey and Anh Demeyer visited staff of the Main Library of the Public Library of Columbus and Franklin County on December 11, 1984 to review the project's progress and cover the installation and testing of the catalogs. Public Library staff visited OCLC on January 25, 1985 to familiarize themselves with searching the experimental online catalogs.

The experimental online catalogs were installed at the University of Illinois' Mathematics Library from November 4, 1984 to December 6, 1984. Our estimates of a schedule for installing the LSI-11 and experimental online catalogs in the remaining three libraries are as follows:

DATE	PLACE
March 4, 1985--March 29, 1985	Public Library of Columbus and Franklin County, Columbus, OH
April 8, 1985--May 3, 1985	Social Science Reading Room, Library of Congress, Washington, DC
May 3, 1985--June 14, 1985	Decimal Classification Division, Library of Congress, Room 507 Madison Building
June 15, 1985--July 13, 1985	New York State Library, Albany, NY

While this schedule is bound to change, it is the best estimate of the installation periods for the experimental online catalogs at the present time. After a discussion with project participants at the ALA Midwinter Conference, the installation periods for the Library of Congress and the New York State Library were switched to enable the installation at the Library of Congress to overlap the Editorial Policy Committee Meeting of Forest Press at LC in April 1985.

Dissemination of Information on the DDC Online Project

1. Oral Presentations. Karen Markey gave presentations on the DDC Online Project to five different groups of librarians in Stockholm, Sweden, (including librarians from Finland, Iceland, and Norway) between September 3 and 14, 1984, and to faculty and students at the Norwegian School of Library and Information Science in Oslo, Norway, on September 17, 1984, and to British librarians at the MARC Users' Group Annual Seminar in Lancaster, England, on September 19, 1984. She also presented a contributed paper at the 47th Annual Meeting of the American Society for Information Science in Philadelphia, PA, on October 23, 1984. Students and faculty of the Graduate Library School of the University of Chicago and the Graduate School of Library and Information Science of the University of Illinois at Urbana-Champaign attended a presentation on the DDC Online Project on October 8, 1984 and November 27, 1984, respectively.

   Julianne Beall, Decimal Classification Specialist at the Library of Congress, will give an oral presentation on the DDC Online Project to the Library of Congress' Professional Association in February 1985. The DDC Online Project Team will give an oral presentation and online demonstration of the experimental online catalogs to all interested OCLC staff on February 8, 1985. Karen Markey has been invited to give a presentation on July 5, 1985 at the Preconference on Classification sponsored by the Resources & Technical Services Division (RTSD) of the American Library Association (ALA) in Chicago, and in mid-August at the Annual Meeting of the International Federation of Library Associations (IFLA) in Chicago.

2. Project Bibliography
   a. "Dewey Decimal Classification Online Project: Interim Report to the Council on Library Resources," by Karen Markey and Anh Demeyer. Dublin, OH: OCLC, 1984 September. Available from ERIC.

   b. "Dewey Decimal Classification Online Project: Interim Report to the Council on Library Resources," by Karen Markey. Dublin, OH: OCLC, 1984 April. Available from ERIC.

   c. "Subject Searching Experiences and Needs of Online Catalog Users: Implications for Library Classification," by Karen Markey. Library Resources & Technical Services 29(1): 34-51; 1985 January/March.

   d. "The Dewey Decimal Classification as a Library User's Tool in an Online Catalog," by Karen Markey. In 1984: Challenges to an Information Society, Proceedings of the 47th Annual ASIS Meeting. White Plains, NY: Knowledge Industry Publications, 1984: 121-125.

3. Specific mail or phone requests for information about the project were received from Elaine Svenonius (Professor, Graduate School of Library and Information Science, University of California at Los Angeles), Hans H. Wellisch (Professor, College of Library and Information Services, University of Maryland, College Park, MD), Antony Croghan (Consultant, Information structures: Media and Arts, London, England), R. F. Peters (Head Librarian, Southern Alberta Institute of Technology, Calgary, Alberta, Canada), Ann Wilson (Library Manager, Intermetrics, Inc., Cambridge, MA), and James M. O'Brien (Head Librarian, Oak Lawn Public Library, Oak Lawn, IL). Visitors to OCLC who were briefed on the DDC Online Project or received demonstrations of the developing system were Kari Marklund (Librarian, Lund University Library, Lund, Sweden), Nigel Metcalfe (Deputy Director, OCLC Europe, Birmingham, England), Klaus-Dieter Lehmann, Gunter Beyersdorff, Rudolf Frankenberger, Gunter Gattermann, Gerhard Schlitt, and Reinhard Rutz (library directors and professors, German Research Society, Bonn, Federal Republic of Germany), and Rijia Husni (Tunisia).

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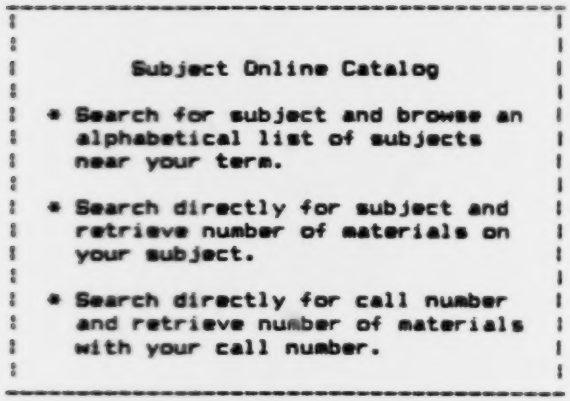
Subject Online Catalog
* Search for subject and browse an alphabetical list of subjects near your term.
* Search directly for subject and retrieve number of materials on your subject.
* Search directly for call number and retrieve number of materials with your call number.

OPTIONS:

CODE	DESCRIPTION
SA	Search alphabetically for subject
SD	Search directly for subject
SC	Search for call number
ES	End search

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Appendix A--Continued

```
Enter an option code > sa
Enter subject word or phrase > quartic curves

YOUR COMMAND...sa:quartic curves

LINE ITEMS TOPICS--ASPECTS
   A      1 Pyramids
   B      1 Pythegorean proposition
            *** Your term was not found ***
   C      1 Queuing theory--Congresses
   D      1 Reasoning
   E      2 Reciprocal polars
   F      3 Regression analysis
   G      2 Relativity (Physics)
   H      1 Representations of groups
   I      1 Resonance--Mathematical models
   J      1 Scheduling (Management)

OPTIONS:

CODE  DESCRIPTION
  BF  Browse forward
  BB  Browse backward
  SD  Search directly for previous subject
  SL  Select line(s) to display items
  SO  Start over

Enter an option code > bf

YOUR COMMAND...bf

LINE ITEMS TOPICS--ASPECTS
   A      1 Semigroups
   B      1 Sequential analysis
   C      5 Sequential machine theory
   D      1 Series
   E      1 Set theory.
   F      1 Solitons
   G      2 Spaces, Generalized
   H      1 Spheres
   I      1 Stability
   J      3 Statistical hypothesis testing

OPTIONS:

CODE  DESCRIPTION
  BF  Browse forward
  BB  Browse backward
  SD  Search directly for previous subject
  SL  Select line(s) to display items
  SO  Start over

Enter an option code > sd

YOUR COMMAND...sd:quartic curves
        7 items for "quartic"
       20 items for "curves"
        7 items in set 1

   SET  ITEMS    REQUEST
     1      7    sd:quartic curves
```


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```
OPTIONS:

CODE  DESCRIPTION
  DI  Display items
  SO  Start over

YOUR COMMAND...so

OPTIONS:

CODE  DESCRIPTION
  SA  Search alphabetically for subject
  SD  Search directly for subject
  SC  Search for call number
  RS  Review sets
  ES  End search

Enter an option code > sa
Enter subject word or phrase > chi square tests

YOUR COMMAND...sa:chi square tests

LINE ITEMS TOPICS--ASPECTS
   A     1 Characteristic classes
   B     1 Characters of groups
           *** Your term was not found ***
   C     1 CHILL (Computer program language)
   D     2 Circle
   E     2 Circle-squaring
   F     4 Circles
   G     2 Cirlce-squaring
   H     2 Coding theory
   I     1 Collineation
   J     1 Combinatorial analysis

OPTIONS:

CODE  DESCRIPTION
  BF  Browse forward
  BB  Browse backward
  SD  Search directly for previous subject
  SL  Select line(s) to display items
  SO  Start over

Enter an option code > sd
```


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Appendix A--Continued

```
YOUR COMMAND...sd:chi square tests
        0 items for "chi"
        0 items for "square"
        4 items for "tests"

I could not find any matches

OPTIONS:

CODE  DESCRIPTION
  SA  Search alphabetically for subject
  SD  Search directly for subject
  SC  Search for call number
  RS  Review sets
  ES  End search

Enter an option code > sa
Enter subject word or phrase > statistics

YOUR COMMAND...sa:statistics

LINE ITEMS TOPICS--ASPECTS
   A     3 Statistical hypothesis testing
   B     1 Statisticians--Biography
 * C     1 Statistics
   D     1 Statistics--Periodicals
   E     3 Stochastic processes
   F     1 Stochastic processes--Collected works
   G     3 Surfaces
   H     2 Surveying
   I     1 System analysis
   J     1 System analysis--Data processing--Congresses

OPTIONS:

CODE  DESCRIPTION
  BF  Browse forward
  BB  Browse backward
  SD  Search directly for previous subject
  SL  Select line(s) to display items
  SO  Start over

Enter an option code > sl
Enter lines (separated by commas) or ALL > a

YOUR COMMAND...sl a
        3 items in set 2


1 OF 3
CALL NUMBER      519.536 R442r
TITLE            Regressionsgerade und Verwandtes
LC SUBJECT       Regression analysis
                 Least squares
                 Statistical hypothesis testing
AUTHOR           Riedwyl, Hans.
PUBLISHER        Bern etc. : P. Haupt, cop. 1980.
SERIES           Uni-Taschenbucher ; 923 : Interdisziplinar

Should I display the next record ? (Y or N, RETURN=Y) >y


2 OF 3
CALL NUMBER      519.56 G65m
TITLE            Monotonicity of the power of two-sample rank tests
LC SUBJECT       Statistical hypothesis testing
AUTHOR           Gordon, Robert David, 1945-
PUBLISHER        Urbana, 1973
```


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```
Should I display the next record ? (Y or N, RETURN=Y) >


3 OF 3
CALL NUMBER      519.56 I47o
TITLE            On the asymptotic behavior of densities with applications to
                 several sequential tests of composite hypotheses
LC SUBJECT       Statistical hypothesis testing
                 Sequential analysis
AUTHOR           Ifram, Adnan F.
PUBLISHER        Urbana, 1963

-----End of display-----
Press RETURN to resume search >


LINE ITEMS TOPICS--ASPECTS
   A     3 Statistical hypothesis testing
   B     1 Statisticians--Biography
   C     1 Statistics
   D     1 Statistics--Periodicals
   E     3 Stochastic processes
   F     1 Stochastic processes--Collected works
   G     3 Surfaces
   H     2 Surveying
   I     1 System analysis
   J     1 System analysis--Data processing--Congresses

OPTIONS:

CODE  DESCRIPTION
  BF  Browse forward
  BB  Browse backward
  SD  Search directly for previous subject
  SL  Select line(s) to display items
  SO  Start over

Enter an option code > so

YOUR COMMAND...so

OPTIONS:

CODE  DESCRIPTION
  SA  Search alphabetically for subject
  SD  Search directly for subject
  SC  Search for call number
  RS  Review sets
  ES  End search

Enter an option code > rs

YOUR COMMAND...rs

   SET  ITEMS    REQUEST
     1      7    sd:quartic curves
     2      3    Statistical hypothesis testing ...

OPTIONS:

CODE  DESCRIPTION
  DI  Display items
  SO  Start over
```


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Appendix A--Continued

```
Enter an option code > di
Enter a set number > 1

YOUR COMMAND...di 1

1 OF 7
CALL NUMBER      516.32 Ar6r
TITLE            The reality of the double tangents of the rational symmetric
                 quartic curve
LC SUBJECT       Curves, Quartic
                 Coordinates, Tangential
                 Triangle
AUTHOR           Arnoldy, Mary Nicholas, Sister.
PUBLISHER        Washington, D.C., Catholic University of America, 1932.

Should I display the next record ? (Y or N, RETURN=Y) >

2 OF 7
CALL NUMBER      516.32 B91o
TITLE            On a case of the triangles in-and-circumscribed to a rational
                 quartic curve with a line of symmetry
LC SUBJECT       Curves, Quartic
                 Triangle
AUTHOR           Burke, Leonarda, Sister, 1900-
PUBLISHER        Washington, D.C., 1931.

Should I display the next record ? (Y or N, RETURN=Y) >

3 OF 7
CALL NUMBER      516.32 Ea7t
TITLE            The triangles in-and-circumscribed to the tacnodal rational
                 quartic curve with residual crunode.
LC SUBJECT       Curves, Quartic
                 Triangle
AUTHOR           Eastham, James Norman, 1903-
PUBLISHER        Washington, D. C., 1931.

Should I display the next record ? (Y or N, RETURN=Y) >

4 OF 7
CALL NUMBER      516.32 F82d
TITLE            The discriminant of the sextic of double point parameters of
                 the plane rational quartic curve
LC SUBJECT       Curves, Quartic
AUTHOR           Fowler, Mary Charlotte, sister, 1899-
PUBLISHER        Washington, D. C., Catholic University of America, 1937.

Should I display the next record ? (Y or N, RETURN=Y) >

5 OF 7
CALL NUMBER      516.32 F91d
TITLE            Determination of a set of independent relations characterizing
                 a certain system consisting of a conic and quartic curve
LC SUBJECT       Curves, Quartic
                 Conic sections
AUTHOR           Frisch, Elizabeth, sister.
PUBLISHER        Washington, D. C., Catholic University of America Press, 1939.

Should I display the next record ? (Y or N, RETURN=Y) >
```


BEST COPY AVAILABLE

Appendix A--Continued

```
6 OF 7
CALL NUMBER       516.32 672o
TITLE             On the condition for the existence of triangles
                  in-and-circumscribed to certain types of the rational quartic
                  curve and having a common side
LC SUBJECT        Curves, Quartic
                  Triangle
AUTHOR            Gough, Mary de Lellis, Sister, 1892-
PUBLISHER         Washington, D.C., The Catholic University of America, 1931.

Should I display the next record ? (Y or N, RETURN=Y) >


7 OF 7
CALL NUMBER       516.32 Su5n
TITLE             The number and reality of the non-self-symmetric quadrilaterals
                  in-and-circumscribed to the rational unicuspidal quartic with a
                  line of symmetry
LC SUBJECT        Curves, Quartic
                  Polygons
AUTHOR            Sullivan, Helen, Sister, 1907-
PUBLISHER         Washington, D.C., Catholic University of America, 1934.

-----End of display-----
Press RETURN to resume search >


   SET  ITEMS    REQUEST
     1      7    sd:quartic curves
     2      3    Statistical hypothesis testing ...

OPTIONS:

CODE  DESCRIPTION
  DI  Display items
  SO  Start over

Enter an option code > so

YOUR COMMAND...so

OPTIONS:

CODE  DESCRIPTION
  SA  Search alphabetically for subject
  SD  Search directly for subject
  SC  Search for call number
  RS  Review sets
  ES  End search

Enter an option code > sa
Enter subject word or phrase > curves, quartic

YOUR COMMAND...sa:curves, quartic

LINE ITEMS TOPICS--ASPECTS
   A     3 Curves, Algebraic
   B     6 Curves, Plane
 * C     7 Curves, Quartic
   D     1 Cybernetics--Dictionaries--German
   E     1 Data base management--Addresses, essays, lectures
   F     1 Decision-making
   G     1 Decision-making--Mathematical models
   H     2 Decomposition method
   I     1 Decompostion method
   J     1 Difference equations
```


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Appendix A--Continued

```
OPTIONS:

CODE  DESCRIPTION
  BF  Browse forward
  BB  Browse backward
  SD  Search directly for previous subject
  SL  Select line(s) to display items
  SO  Start over

Enter an option code > sl
Enter lines (separated by commas) or ALL > c

YOUR COMMAND...sl c
        7 items in set 3


1 OF 7
CALL NUMBER      516.32 Ar6r
TITLE            The reality of the double tangents of the rational symmetric
                 quartic curve
LC SUBJECT       Curves, Quartic
                 Coordinates, Tangential
                 Triangle
AUTHOR           Arnoldy, Mary Nicholas, Sister.
PUBLISHER        Washington, D.C., Catholic University of America, 1932.

Should I display the next record ? (Y or N, RETURN=Y) >n


LINE ITEMS TOPICS--ASPECTS
   A     3 Curves, Algebraic
   B     6 Curves, Plane
   C     7 Curves, Quartic
   D     1 Cybernetics--Dictionaries--German
   E     1 Data base management--Addresses, essays, lectures
   F     1 Decision-making
   G     1 Decision-making--Mathematical models
   H     2 Decomposition method
   I     1 Decompostion method
   J     1 Difference equations

OPTIONS:

CODE  DESCRIPTION
  BF  Browse forward
  BB  Browse backward
  SD  Search directly for previous subject
  SL  Select line(s) to display items
  SO  Start over

Enter an option code > bb

YOUR COMMAND...bb

LINE ITEMS TOPICS--ASPECTS
   A     4 Configurations
   B     1 Congruences
   C     1 Congruences (Geometry)
   D    19 Conic sections
   E     1 Conics, Spherical
   F     1 Control theory
   G     5 Coordinates
   H     1 Coordinates, Tangential
   I     6 Curves
   J     3 Curves, Algebraic
```


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```
OPTIONS:

CODE  DESCRIPTION
  BF  Browse forward
  BB  Browse backward
  SD  Search directly for previous subject
  SL  Select line(s) to display items
  SO  Start over

Enter an option code > so

YOUR COMMAND...so

OPTIONS:

CODE  DESCRIPTION
  SA  Search alphabetically for subject
  SD  Search directly for subject
  SC  Search for call number
  RS  Review sets
  ES  End search

Enter an option code > es

YOUR COMMAND...es
```

Appendix B. August 1984 Version of DOC for Project Participants' Review

DEWEY ONLINE CATALOG

```
OPTIONS:

CODE  DESCRIPTION
  SA  Search alphabetically for subject
  SS  Search systematically for subject
  SC  Search for call number
  RS  Review sets
  ES  End search

Enter an option code > sa
Enter subject word or phrase > quartic curves

YOUR COMMAND...sa:quartic curves

LINE ITEMS TOPICS--ASPECTS
   A     2 Quadratic--equations--calculus
   B     2 Quadrature--calculus
           *** Your term was not found ***
   C     1 Radical--theory--algebra
   D     8 Random--processes mathematics
   E     1 Real--variable functions
   F     1 Real-valued functions
   G     2 Rectification--calculus
   H     3 Reductive algebras and groups
   I     3 Regression analysis--statistical mathematics
   J     2 Reliability--probability theory

OPTIONS:

CODE  DESCRIPTION
  BF  Browse forward
  BB  Browse backward
  BT  Browse a topic
  SS  Search systematically for previous subject
  SL  Select line(s) to display items
  SO  Start over

Enter an option code > sl
Enter lines (separated by commas) or ALL > a

YOUR COMMAND...sl a
        2 items in set 2


1 OF 2
CALL NUMBER      FILM 515.252 Eb39u
TITLE            Uber Polynomsysteme mit Rodriguesscher Darstellung
LC SUBJECT       Polynomials
DEWEY SUBJECT    Equations and functions. By degree.
DEWEY INDEX      Polynomial equations
                 Polynomial equations--calculus
                 Quadratic--equations
                 Quadratic--equations--calculus
AUTHOR           Ebert, Rudolf, 1923-
PUBLISHER        1964.
```


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```
Should I display the next record ? (Y or N, RETURN=Y) >n

LINE ITEMS TOPICS--ASPECTS
   A      2 Quadratic--equations--calculus
   B      2 Quadrature--calculus
   C      1 Radical--theory--algebra
   D      8 Random--processes mathematics
   E      1 Real--variable functions
   F      1 Real-valued functions
   G      2 Rectification--calculus
   H      3 Reductive algebras and groups
   I      3 Regression analysis--statistical mathematics
   J      2 Reliability--probability theory

OPTIONS:

CODE  DESCRIPTION
  BF  Browse forward
  BB  Browse backward
  BT  Browse a topic
  SS  Search systematically for previous subject
  SL  Select line(s) to display items
  SO  Start over

Enter an option code > bb

YOUR COMMAND...bb

LINE ITEMS TOPICS--ASPECTS
   A      1 Potential--theory--functional analysis
   B      2 Prediction--probabilities
   C      3 Prediction--statistical mathematics
   D      3 Prime--numbers
   E      5 Probabilities--mathematics
   F      7 Probability calculus
   G      2 Programming--mathematics
   H      2 Proper--integrals
   I      2 Quadratic--equations
   J      2 Quadratic--equations--calculus

OPTIONS:

CODE  DESCRIPTION
  BF  Browse forward
  BB  Browse backward
  BT  Browse a topic
  SS  Search systematically for previous subject
  SL  Select line(s) to display items
  SO  Start over

Enter an option code > ss

YOUR COMMAND...ss:quartic curves

  Please hold .......
  Thank you.
```


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```
Your subject is treated from only one perspective :

LINE  PERSPECTIVES
   A  Geometry.

OPTIONS:

CODE  DESCRIPTION
  BP  Browse a perspective
  SO  Start over

Enter an option code > bp

YOUR COMMAND...bp a

Books on your subject may be found in 516.32; related topics are also listed.

GENERAL TOPIC : Analytic geometries.

    LINE  ITEMS  LOCATION         TOPIC
       A     30  516.32           Plane.
       B      0  516.33           Solid.
       C      0  516.34           Analytic trigonometry.
       D      3  516.35           Classical algebraic geometry.
       E      2  516.36           Differential and integral geometry.
       F      0  516.37           Metric differential geometries.

OPTIONS:

CODE  DESCRIPTION
  BG  Browse more general topics
  BS  Browse more specific topics
  GI  Get more info on a topic
  SL  Select line(s) to display items
  RP  Return to perspectives list
  SO  Start over

Enter an option code > bs
Enter a line > a

YOUR COMMAND...bs a

GENERAL TOPIC : Plane.

    LINE  ITEMS  LOCATION         TOPIC

*** Sorry, there are no more specific topics; this is the most specific level.

Press RETURN to resume search >

GENERAL TOPIC : Analytic geometries.

    LINE  ITEMS  LOCATION         TOPIC
       A     30  516.32           Plane.
       B      0  516.33           Solid.
       C      0  516.34           Analytic trigonometry.
       D      3  516.35           Classical algebraic geometry.
       E      2  516.36           Differential and integral geometry.
       F      0  516.37           Metric differential geometries.
```


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```
OPTIONS:

CODE  DESCRIPTION
  BG  Browse more general topics
  BS  Browse more specific topics
  GI  Get more info on a topic
  SL  Select line(s) to display items
  RP  Return to perspectives list
  SO  Start over

Enter an option code > gi
Enter a line > a

YOUR COMMAND...gi a

DETAILED SCHEDULE NOTES FOR TOPIC : Plane.

ddc-sched-num   516.32
MAIN TEXT       Plane.

Press RETURN to resume search >


GENERAL TOPIC : Analytic geometries.

    LINE  ITEMS  LOCATION         TOPIC
       A     30  516.32           Plane.
       B      0  516.33           Solid.
       C      0  516.34           Analytic trigonometry.
       D      3  516.35           Classical algebraic geometry.
       E      2  516.36           Differential and integral geometry.
       F      0  516.37           Metric differential geometries.

OPTIONS:

CODE  DESCRIPTION
  BG  Browse more general topics
  BS  Browse more specific topics
  GI  Get more info on a topic
  SL  Select line(s) to display items
  RP  Return to perspectives list
  SO  Start over

Enter an option code > sl
Enter lines (separated by commas) or ALL > a

YOUR COMMAND...sl a
       30 items in set 3


1 OF 30
CALL NUMBER     516.32 Ar6r
TITLE           The reality of the double tangents of the rational symmetric
                quartic curve
LC SUBJECT      Curves, Quartic
                Coordinates, Tangential
                Triangle
DEWEY SUBJECT   Analytic geometries. Plane.
DEWEY INDEX     Plane--analytic geometry
AUTHOR          Arnoldy, Mary Nicholas, Sister.
PUBLISHER       Washington, D.C., Catholic University of America, 1932.

Should I display the next record ? (Y or N, RETURN=Y) >
```


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Appendix B--Continued

```
2 OF 30
CALL NUMBER      516.32 Ar7
TITLE            Linear geometry.
LC SUBJECT       Geometry, Modern--Plane
DEWEY SUBJECT    Analytic geometries. Plane.
DEWEY INDEX      Plane--analytic geometry
AUTHOR           Artzy, Rafael.
PUBLISHER        Reading, Mass., Addison-Wesley 1965
SERIES           Addison-Wesley series in mathematics

Should I display the next record ? (Y or N, RETURN=Y) >


3 OF 30
CALL NUMBER      516.32 As4a
TITLE            The analytical geometry of the conic sections
LC SUBJECT       Geometry, Analytic--Plane
DEWEY SUBJECT    Analytic geometries. Plane.
DEWEY INDEX      Plane--analytic geometry
AUTHOR           Askwith, Edward Harrison, 1864-
PUBLISHER        London : A. and C. Black, 1908.

Should I display the next record ? (Y or N, RETURN=Y) >


4 OF 30
CALL NUMBER      516.32 B46n, 1890
TITLE            Notes on roulettes and glissettes
LC SUBJECT       Geometry, Infinitesimal--Roulettes
DEWEY SUBJECT    Analytic geometries. Plane.
DEWEY INDEX      Plane--analytic geometry
AUTHOR           Besant, William Henry, 1828-1917.
PUBLISHER        Cambridge Eng. : Deighton, Bell, 1890.
SERIES           Cambridge mathematical series

Should I display the next record ? (Y or N, RETURN=Y) >n


GENERAL TOPIC : Analytic geometries.

    LINE  ITEMS  LOCATION         TOPIC
       A     30  516.32           Plane.
       B      0  516.33           Solid.
       C      0  516.34           Analytic trigonometry.
       D      3  516.35           Classical algebraic geometry.
       E      2  516.36           Differential and integral geometry.
       F      0  516.37           Metric differential geometries.

OPTIONS:

CODE  DESCRIPTION
  BG  Browse more general topics
  BS  Browse more specific topics
  GI  Get more info on a topic
  SL  Select line(s) to display items
  RP  Return to perspectives list
  SO  Start over

Enter an option code > gi
Enter a line > d

YOUR COMMAND...gi d

DETAILED SCHEDULE NOTES FOR TOPIC : Classical algebraic geometry.
```


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Appendix B--Continued

```
ddc-sched-num   516.35
MAIN TEXT       Classical algebraic geometry.
ALSO            Also birational and conformal transformations, intersmetions,
                connections, dual geometries, bilinear and sesquilinear forms,
                comprehensive works on algebraic geometry.

Press RETURN to resume search >

GENERAL TOPIC : Analytic geometries.

    LINE  ITEMS  LOCATION        TOPIC
       A     30  516.32          Plane.
       B      0  516.33          Solid.
       C      0  516.34          Analytic trigonometry.
       D      3  516.35          Classical algebraic geometry.
       E      2  516.36          Differential and integral geometry.
       F      0  516.37          Metric differential geometries.

OPTIONS:

CODE  DESCRIPTION
  BG  Browse more general topics
  BS  Browse more specific topics
  GI  Get more info on a topic
  SL  Select line(s) to display items
  RP  Return to perspectives list
  SO  Start over

Enter an option code > so

YOUR COMMAND...so

OPTIONS:

CODE  DESCRIPTION
  SA  Search alphabetically for subject
  SS  Search systematically for subject
  SC  Search for call number
  RS  Review sets
  ES  End search

Enter an option code > sa
Enter subject word or phrase > chi square tests

YOUR COMMAND...sa:chi square tests

LINE ITEMS TOPICS--ASPECTS
   A     2 Cauchy integral calculus
   B     7 Chance--probabilities--mathematics
           *** Your term was not found ***
   C     2 Chi-square test--statistical mathematics
   D     4 Circle-geometry
   E     7 Circles--geometry--squaring
   F     3 Classical--algebraic geometry
   G     8 Coding--theory mathematics
   H     2 Combinatorial--analysis
   I     1 Commutative--algebras
   J     3 Commutative--groups--algebra

OPTIONS:

CODE  DESCRIPTION
  BF  Browse forward
  BB  Browse backward
  BT  Browse a topic
  SS  Search systematically for previous subject
  SL  Select line(s) to display items
  SO  Start over
```


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Appendix B--Continued

```
Enter an option code > sl
Enter lines (separated by commas) or ALL > c

YOUR COMMAND...sl c
        2 items in set 4


1 OF 2
CALL NUMBER      519.56 G65m
TITLE            Monotonicity of the power of two-sample rank tests
LC SUBJECT       Statistical hypothesis testing
DEWEY SUBJECT    Statistical mathematics. Statistical hypothesis testing.
DEWEY INDEX      Chi-square test--statistical mathematics
                 Hypotheses--testing--statistical mathematics
                 Statistical--hypothesis testing
AUTHOR           Gordon, Robert David, 1945-
PUBLISHER        Urbana, 1973

Should I display the next record ? (Y or N, RETURN=Y) >y


2 OF 2
CALL NUMBER      519.56 If7o
TITLE            On the asymptotic behavior of densities with applications to
                 several sequential tests of composite hypotheses
LC SUBJECT       Statistical hypothesis testing
                 Sequential analysis
DEWEY SUBJECT    Statistical mathematics. Statistical hypothesis testing.
DEWEY INDEX      Chi-square test--statistical mathematics
                 Hypotheses--testing--statistical mathematics
                 Statistical--hypothesis testing
AUTHOR           Ifram, Adnan F.
PUBLISHER        Urbana, 1963

-----End of display-----
Press RETURN to resume search >


LINE ITEMS TOPICS--ASPECTS
   A      2 Cauchy integral calculus
   B      7 Chance--probabilities--mathematics
   C      2 Chi-square test--statistical mathematics
   D      4 Circle-geometry
   E      7 Circles--geometry--squaring
   F      3 Classical--algebraic geometry
   G      8 Coding--theory mathematics
   H      2 Combinatorial--analysis
   I      1 Commutative--algebras
   J      3 Commutative--groups--algebra

OPTIONS:

CODE  DESCRIPTION
  BF  Browse forward
  BB  Browse backward
  BT  Browse a topic
  SS  Search systematically for previous subject
  SL  Select line(s) to display items
  SO  Start over

Enter an option code > bt
Enter a line > c

YOUR COMMAND...bt c

  Please hold ..
  Thank you.
```


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Appendix B--Continued

```
Books on your subject may be found in 519.56; related topics are also listed.

GENERAL TOPIC : Statistical mathematics.

    LINE  ITEMS  LOCATION         TOPIC
       A      0  519.52           Theory of sampling.
       B      6  519.53           Descriptive statistics and multivariate
                                    analysis.
       C      6  519.54           Statistical inference.
       D      1  519.55           Time series analysis.
       E      2  519.56           Statistical hypothesis testing.

OPTIONS:

CODE  DESCRIPTION
  BG  Browse more general topics
  BS  Browse more specific topics
  GI  Get more info on a topic
  SL  Select line(s) to display items
  SO  Start over

Enter an option code > bs+
Enter a line > e

YOUR COMMAND...bs e

GENERAL TOPIC : Statistical hypothesis testing.

    LINE  ITEMS  LOCATION         TOPIC


*** Sorry, there are no more specific topics; this is the most specific level.

Press RETURN to resume search >

GENERAL TOPIC : Statistical mathematics.

    LINE  ITEMS  LOCATION         TOPIC
       A      0  519.52           Theory of sampling.
       B      6  519.53           Descriptive statistics and multivariate
                                    analysis.
       C      6  519.54           Statistical inference.
       D      1  519.55           Time series analysis.
       E      2  519.56           Statistical hypothesis testing.

OPTIONS:

CODE  DESCRIPTION
  BG  Browse more general topics
  BS  Browse more specific topics
  GI  Get more info on a topic
  SL  Select line(s) to display items
  SO  Start over

Enter an option code > gi
Enter a line > e

YOUR COMMAND...gi e

DETAILED SCHEDULE NOTES FOR TOPIC : Statistical hypothesis testing.

ddc-sched-num   519.56
MAIN TEXT       Statistical hypothesis testing.
EXAMPLE         Example: chi-square test.

Press RETURN to resume search >
```


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```
GENERAL TOPIC : Statistical mathematics.

    LINE  ITEMS  LOCATION          TOPIC
       A      0  519.52            Theory of sampling.
       B      6  519.53            Descriptive statistics and multivariate
                                     analysis.
       C      6  519.54            Statistical inference.
       D      1  519.55            Time series analysis.
       E      2  519.56            Statistical hypothesis testing.

OPTIONS:

CODE  DESCRIPTION
  BG  Browse more general topics
  BS  Browse more specific topics
  GI  Get more info on a topic
  SL  Select line(s) to display items
  SO  Start over

Enter an option code > sl
Enter lines (separated by commas) or ALL > e

YOUR COMMAND...sl e
       2 items in set 5


1 OF 2
CALL NUMBER      519.56 G65m
TITLE            Monotonicity of the power of two-sample rank tests
LC SUBJECT       Statistical hypothesis testing
DEWEY SUBJECT    Statistical mathematics. Statistical hypothesis testing.
DEWEY INDEX      Chi-square test--statistical mathematics
                 Hypotheses--testing--statistical mathematics
                 Statistical--hypothesis testing
AUTHOR           Gordon, Robert David, 1945-
PUBLISHER        Urbana, 1973

Should I display the next record ? (Y or N, RETURN=Y) >n


GENERAL TOPIC : Statistical mathematics.

    LINE  ITEMS  LOCATION          TOPIC
       A      0  519.52            Theory of sampling.
       B      6  519.53            Descriptive statistics and multivariate
                                     analysis.
       C      6  519.54            Statistical inference.
       D      1  519.55            Time series analysis.
       E      2  519.56            Statistical hypothesis testing.

OPTIONS:

CODE  DESCRIPTION
  BG  Browse more general topics
  BS  Browse more specific topics
  GI  Get more info on a topic
  SL  Select line(s) to display items
  SO  Start over

Enter an option code > bg

YOUR COMMAND...bg

GENERAL TOPIC : Probabilities and applied mathematics.
```


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Appendix B--Continued

```
    LINE  ITEMS  LOCATION        TOPIC
       A     12  519.2           Probabilities.
       B      2  519.3           Game theory.
       C      8  519.4           Applied numerical analysis.
       D     26  519.5           Statistical mathematics.
       E      5  519.7           Programming.
       F      0  519.8           Special topics.

OPTIONS:

CODE  DESCRIPTION
  BG  Browse more general topics
  BS  Browse more specific topics
  GI  Get more info on a topic
  SL  Select line(s) to display items
  SO  Start over

Enter an option code > so

YOUR COMMAND...so

OPTIONS:

CODE  DESCRIPTION
  SA  Search alphabetically for subject
  SS  Search systematically for subject
  SC  Search for call number
  RS  Review sets
  ES  End search

Enter an option code > rs

YOUR COMMAND...rs

   SET  ITEMS    REQUEST
     1     13    Differential--equations ...
     2      2    Quadratic--equations--calculus ...
     3     30    516.32 ...
     4      2    Chi-square test--statistical mathematics ...
     5      2    519.56 ...

OPTIONS:

CODE  DESCRIPTION
  DI  Display items
  SO  Start over

Enter an option code > so

YOUR COMMAND...so

OPTIONS:

CODE  DESCRIPTION
  SA  Search alphabetically for subject
  SS  Search systematically for subject
  SC  Search for call number
  RS  Review sets
  ES  End search

Enter an option code > sc
Enter call number (between 510 and 519.86)> 516.36

YOUR COMMAND...sc:516.36

GENERAL TOPIC : Analytic geometries.
```


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```
    LINE  ITEMS  LOCATION          TOPIC
       A     30  516.32            Plane.
       B      0  516.33            Solid.
       C      0  516.34            Analytic trigonometry.
       D      3  516.35            Classical algebraic geometry.
       E      2  516.36            Differential and integral geometry.
       F      0  516.37            Metric differential geometries.

OPTIONS:

CODE  DESCRIPTION
  BG  Browse more general topics
  BS  Browse more specific topics
  GI  Get more info on a topic
  SL  Select line(s) to display items
  SO  Start over

Enter an option code > bs
Enter a line > e

YOUR COMMAND...bs e

GENERAL TOPIC : Differential and integral geometry.

    LINE  ITEMS  LOCATION          TOPIC
       A      0  516.360           General aspects. Examples : Journals,Study
                                     and Teaching.
       B      0  516.362           Global differential geometry (Integral
                                     geometry).
       C      0  516.363           Local and intrinsic differential geometry.

OPTIONS:

CODE  DESCRIPTION
  BG  Browse more general topics
  BS  Browse more specific topics
  GI  Get more info on a topic
  SL  Select line(s) to display items
  SO  Start over

Enter an option code > bs
Enter a line > a

YOUR COMMAND...bs a

GENERAL TOPIC : General aspects. Examples : Journals,Study and Teaching.

    LINE  ITEMS  LOCATION          TOPIC
       A      0  516.3602          Classical differential geometry.
       B      0  516.3604          Modern differential geometry.

OPTIONS:

CODE  DESCRIPTION
  BG  Browse more general topics
  BS  Browse more specific topics
  GI  Get more info on a topic
  SL  Select line(s) to display items
  SO  Start over

Enter an option code > so

YOUR COMMAND...so
```


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```
OPTIONS:

CODE  DESCRIPTION
  SA  Search alphabetically for subject
  SS  Search systematically for subject
  SC  Search for call number
  RS  Review sets
  ES  End search

Enter an option code > es

YOUR COMMAND...es
```


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Appendix C. Project Participants' Review Comments to August 1984 Versions of SOC and DOC

SOC/DOC: COMMENTS FROM REVIEWERS -- 29 Oct 1984

This is a list of comments from the reviewers about SOC and DOC of the DDC Online Project.

The 6 columns in the list are:

1. date reviewed
2. initials: AW = Arnold Wajenberg (UI)
   CH = Charles Hildreth (OCLC)
   DP = Dick Palmer (PLCFC)
   dp = Doug Perkins (OCLC)
   GP = George Pallas (OCLC)
   HC = Hal Cheney (OCLC)
   JC = John Comaromi and Julianne Beall (LC)
   LC = Lois Chan (U. of Kentucky)
   LP = Leslie Pearse (OCLC)
   PC = Paul Camppuzzello (OCLC)
   pc = Pauline Cochrane (LC)
   PM = Peggy Morrison (LC)
   RG = Rich Greene (OCLC)
   rg = Rich Greene's group (OCLC)
   SD = Steve Driscoll (OCLC)
   TH = Tom Harnish (OCLC)
3. status: Y = Yes, fixed
   N = No, not fixed
   C = compromised
4. system: SOC or DOC or both
5. command code in the system
6. comment, reason (if not fixed), and solution (if compromised)

The comments are compiled in alphabetical order of the command code, then in chronological order.

1	2	3	4	5	6
840914	GP	N	both & others		COMMENT 1 Provide command-driven mode (in additional to the menu-driven mode) so that a more experienced user will not find the system annoying. Also allow the user to enter many commands at the same time. REASON The Interface Simulator, from which SOC and DOC were built, was a command-driven system, but was modified to become a menu-driven system because SOC and DOC will be used for experiments only. Each experimental user will use the system for 1/2 to 1 hour. Therefore, it is better for the user to be led by the menus; no manual or brochure will be required.
840810	RG	Y	both		COMMENT 2 "Enter option >" is not clear. Should the user enter the 2 characters or the entire line? SOLUTION A menu now has two columns: one for the options, and the other for the option descriptions. If the user enters something that is different from any of the two-character code, a message will tell the user of the fact.

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840812 PC Y both — COMMENT 3
Provide "recovery" mechanism in case the user entered something he/she didn't mean to. Eg: The user entered "SD" instead of "SA", and now wants to change the command before being asked to enter the subject.

REASON
The user may cancel the command by just pressing the "RETURN" key when being asked to enter the subject. A message will tell the user of the fact.

840812 PC N both — COMMENT 4
Provide Boolean functions. A novice user will not care for such functions, but a sophisticated user will.
840910 LC - ---- No Boolean functions?

REASON
These functions were developed and tested but had to be taken out due to the lack of code space.

840815 SD C both — COMMENT 5
Likes the use of "I" and "you" in the messages. They sound personal.
840924 PM - ---- Not too crazy about anthropomorphizing the computer.

REASON
The messages do not contain "I" or "me", but contain "you".

840907 rg both — COMMENT 6
Why are sets of records being kept?
840921 DP - ---- Same comment.

So that the user can review their searches.

8408 CH C both — COMMENT 7
The message "Press RETURN to continue > " is not clear. "Continue" with what?

SOLUTION
Changed to "Press RETURN to resume search >".

8408 CH Y both — COMMENT 8
Do not to ask the user to choose a line from a list when the list has only one line.

8408 CH C both — COMMENT 9
"Enter subject term or phrase" should be changed to "Enter subject word or phrase".
"Review sets" should be changed to "Review your searches"

SOLUTION
Use "Enter subject to search" and "Review your searches".

8408 CH Y both — COMMENT 10
If a user has entered both the command and the subject or call number on one same line, he/she should not be asked to enter the subject or call number again.

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8408 CH C both

COMMENT 11
Should do a small sample survey to get the best names for fields and commands.

SOLUTION
Although a survey was not done, many reviewers have given good comments that we have incorporated to the system.

840910 AW Y both

COMMENT 12
The Edition field (tag 250, subfield a) is as important as the Publisher field. May want to include the Edition field in the data base.

This was done although about 1/4 of the data base had been indexed. The Edition field is will be displayed between the Sponsor and Publisher fields.

840925 HC N both

COMMENT 13
Expects to remain in the same type of search after a search was performed and no items were found. Eg: "SD war" results in zero items, the system may ask for another subject term so that another "SD" can be performed.

REASON
One of the goals of the project is to find out which type of search is most successful, and not necessarily to help the user successfully find the hits for a subject. That is, the user is encouraged to try different types of search for a given subject, not to try different subjects for one type of search.

840910 AW C DOC

COMMENT 14
The dummy main text entry "General aspects. Examples: Journa
Study and Teaching"is not for 516.360; it is for 516.3600.
Suggestion: Use "General aspects." for 516.360.

840910 LC - ---

Same comment. Suggestion: Use "General topics and aspects.' for 516.360 and add "General aspects. Examples: Journal, Study and Teaching" for 516.3600.

SOLUTION
1) For 516.360: Use the dummy main entry text "General aspects.", according to Arnold Wajenberg's suggestion. This main entry text had been changed and indexed before Lois Chan's comment arrived.
2) For 516.3600: 516.3600 was not added because a) none of the DDC numbers in the data base should have add-ons, except for special cases, e.g., New York State Library, and b) the dummy main entry text are meant for truncated DDC numbers that end with a zero in order to provide continuity in the hierarchy of the DDC schedules only. There is not a DDC number 516.3600x in the schedules for Illinois, so there is no need to add 516.3600.

840910 LC C DOC

COMMENT 15
Adding all DDCRI entries to a bib record with the same DDC number may be misleading. There are many DDCRI entries to a DDC numbers; a bib record may satisfy only one of the DDCRI entries. Eg: A 515.43 item may be about calculus

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integration only, not about Poisson integral also. There are many DDCRI entries to 515.43, two of which are "calculus integration" and "Poisson integral".

840913 JC - --- Same comment.

840924 MP - --- Same comment. Is there a way for the system to spot the schedule and index entries that are examples of a subject, rather than subjects themselves?

SOLUTION
Assigning the correct DDCRI entries to a bib record requires the knowledge of a classifier, which is impossible to automate.
John Comaromi, Julianne Beall and Peggy Morrison reached the decision on October 15 not to display the DDCRI entries in bib records. Please note that these entries are still used for search indexes.

8408 JC Y DOC COMMENT 16
Use the following names to display the DDC schedules:

INCLUDING NOTE	for nin/including note
EXAMPLES	for nex/example note
INCLUDES	for nch/class here note
OPTIONAL LOCATION	for nop/optional provisions note
DISCONTINUED	for ndn/discontinued note
RELOCATION	for nrl/relocation note
EXCEPTION NOTE	for nsx/standard subdivisions exception note

840924 PM N DOC COMMENT 17
The users will not have a good grasp on the differences among "subject", "topic", "perspective". May want to explain these terms on a card.

REASON
This does not seem to bother the searchers in the pretest of the survey instrument.

840924 PM N both COMMENT 18
When the system requires a "yes" or "no" answer, "y" should be "yes", and "n" should be "no"; don't use "RETURN" for "yes". Although these answers are not as efficient as the RETURN key, it is easier to understand.

REASON
The only place where a yes/no question is used is in the display of the bib records. (It is "Would you like to see the next item?") It is much more convenient to press the "RETURN" (as opposed to entering "y" and pressing return) in order to see the next record, especially if the set contains many items.

840815 SD N both BF COMMENT 19
BB "Browse forward" and "browse backward" seem to have reverse meanings.

REASON
Not changed because the majority of the users will understand what "browse forward" and "browse backward" mean.

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840911 pc Y DOC BG COMMENT 20
BS Add the DDC number to the header line "GENERAL TOPIC:"; otherwise, it is not clear if the "general" topic is more general than the topics in the list.

840924 PM N DOC BS COMMENT 21
GI When a list of topics (ie, DDC shedule main entry text) is displayed, may want to append only the applicable option codes at the end of each topic. For example:

LINE	ITEMS	LOCATION	TOPIC
:	:	:	:
:	:	:	:
C	6	519.53	Desciptive statistics and multivariate analysis (GI)
:	:	:	:
:	:	:	:

In this example, GI applies to this topic but BS does not. This feature will warn the user not to use BS for a topic without more specific topics, and not to use GI for a topic without other DDC notes.

REASON
Although the suggestion is plausible and feasible, it is not a simple task. There is barely enough code space for SOC and DOC; we are still trying to optimize at this time. Therefore, adding this new feature is not possible.

8408 CH Y DOC BT COMMENT 22
It was strange to see the DDCRI "inverse geometry" leading to the schedule for "geometry".
840910 LC - --- -- While a classifier appreciates and understands this function, an average user may not. Eg: The user chooses "Chi-square test--statistical mathematics" to browse a topic (via BT). This DDCRI (519.56) leads to "Statistical hypothesis testing" in the DDC schedules. How can an average user understand the relationship between the DDCRI and schedules? Suggestion: May want to display the DDCRI at the top of the DDC schedule so that the user can see the connection.

SOLUTION
Change the command to "ST Search systematically for a topic in the list". Also see the REASON and SOLUTION to COMMENT 60 below.

8408 CH N DOC BT COMMENT 23
It is possible to go from the DDCRI to DDC schedules. It would be nice to go from the DDC schedules back to the DDCRI.

REASON
It is not possible to go from the DDC schedules to DDCRI because this is a one-to-many mapping from the DDC schedules to the DDCRI.

840911 pc C DOC BT COMMENT 24
SS Should append "in the following outline" to "Your subject is treated under xxx.xx (ie, a DDC number)".

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840924 PM - --- -- The message in response to the BT command "Books on your subject may be found in xxx.xx (ie, a DDC number)...." will be in error when used at LC. May want to say ".... may be found in category xxx.xx....."

SOLUTION:
The message will be "Your subject is treated under category xxx.xx in the following outline." for LC, and "Your subject is treated under xxx.xx in the following outline." for other sites.
In addition, an asterisk (*) will be displayed in the left margin, at the line of interest.

840924 PM C DOC BT COMMENT 25
The option "BT Browse a topic" is confusing because the user is already looking at a list of "topics" (ie, list of aspects, or equivalently, DDCRIs). May want to use "BT Browse a topic in more detail". Should also make a distinction between BT and "BS Browse more specific topics".

SOLUTION
Change the command to "ST Search systematically for a topic from the list". Also see the REASON and SOLUTION to COMMENT 60 below.

840720 LP Y both DI COMMENT 26
Rephrase "Would you like to see the next record? (Y or N, RETURN=Y) >". Do as LS/2000.
840905 AW - --- --- Same comment. May want to say ".....? (RETURN=yes, N=no) >'

SOLUTION: Use Arnold Wajenberg's suggestion.

840720 LP Y both DI COMMENT 27
Don't display the field name or subscript number if a field is repeated.

840720 LP Y both DI COMMENT 28
Display record number in a set, such as "x of y" (where x is the sequential number of the record in the set, and y is the total number of records in the set), not the accession number in the data base.

840810 RG N both DI COMMENT 29
The description "Display items" means display items in one set or in all sets? May want to say "Display items in a set".

REASON
Not fixed because the users may not know or remember what a "set" means.

840810 RG Y both DI COMMENT 30
If the user already wanted to stop the display of items, don't ask he/she to "Press RETURN to resume search".

840720 LP N both DI COMMENT 31
Provide the browsing (forward and backward) capability when items are being displayed.
840812 PC - ---- -- Same comment.

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840906 TH - ---- -- Same comment.
8408 CH - ---- -- Same comment.

REASON
Although this feature is very useful, it is not provided because this capability will require a great deal of code and, therefore, space. There is not enough space.

8408 CH N DOC DI COMMENT 32
SA May not want to display LC subjects in DOC. "Graded rings" is an LC subject heading but cannot be browsed in SA.

REASON
SA in DOC gives a list of DDCRI entries only (ie, the list does not contain LC subject headings). LC subject headings are not used in SA; they are used in SS. LC subject headings were originally designed to be browsed along with DDCRI in DOC, but were later separated (ie, eliminated from DOC's SA browse function) so that the evaluation of and comparison between LC subject headings and DDCRI can be accomplished.

8408 CH N DOC DI COMMENT 33
"Dewey Subject" and "Dewey Index" should have more meaningful names. No suggestions.

840911 pc N DOC DI COMMENT 34
Whenever there is a hit, all the bib records will have one DDC number. That means all the records will have the same DDCRI entries. Two suggestions: 1) Display all DDCRIs in the first record of the set, and say "see previous record for this information" for subsequent records, OR 2) If the hit was because of a match in the DDCRI, then only display that DDCRI entry in the bib record and append the prompt "for more Dewey Index information, request a full record display".

REASON
A set can be created via the following functions:
1) SA and SL (Search alphabetically and Select line(s)):
   a) 1 line selected:
      The set is a result of matching a DDCRI entry, and, therefore, all members of the set have one DDC number.
   b) more than 1 line selected:
      The set is a result of ORing all the matched DDCRI entries. In most cases, the members of the resulting set will have more than one different DDC number. Therefore, not all records have the same DDCRIs.
2) SS and SL (Search systematically and Select line(s)):
   a) 1 line selected:
      The set is a result of matching the truncated DDC numbers. It is very likely that the members of the resulting set will have more than one DDC number.
   b) more than 1 line selected:
      The set is a result of ORing all the truncated DDC numbers. It is certain that the members of the resulting set will have more than one DDC number because each line in the DDC schedule represents a distinct DDC number.

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3) SC and SL (Search for call number and Select line(s)):
   a) 1 line selected:
      Same as 2) a).
   b) more than 1 line selected:
      Same as 2) b).

Consequently, the suggestions apply to only one case: 1) a). Further more, due to the current design, it is not simple to carry out suggestion 1, and is even more complex to carry out suggestion 2.

840924 PM N both DI COMMENT 35
Prefers to see the fields in a bib record displayed in the following order: Call number, Title, Author, Publisher, Series, and subject areas. The subject headings are more noticeable at the end of the record, and the Author more evident after the Title.

REASON
The order in which the fields are currently being displayed was suggested and agreed upon by all parties involved earlier.

840925 HC N both DI COMMENT 36
May want to provide a "short" and a "long" display.

REASON
Want all users to see the same type of information from both systems so that their evaluation will not be biased.

840910 LC N both ES COMMENT 37
The ES command should be provided in all menus in case the user wants to end the search in a hurry and does not know that the only way to get to a menu with the ES command is via an SO command.
840924 PM - ---- -- Should provide the ES command in each menu.
840925 HC - ---- -- Same comment. It is annoying to have to go through many steps in order to get out.

REASON
Not fixed because a) the ES function is meant to be used only once at the end of an experimental session, b) some of the menus are already too long and there are not enough lines on the screen, and c) the maximum number of steps taken to end a search session from any menu is two: SO and ES.

8408 CH C DOC GI COMMENT 38
The description for GI, ie, "Get more information" is not meaningful.

SOLUTION
Changed to "GN Get more detailed notes on a topic."

840910 LC C DOC GI COMMENT 39
It is misleading to give the GI option when, in some cases, there is not any more information than the main entry text, which has already been displayed in the list of topics.
840913 JC --- -- If there are not additional notes, say "SORRY, THERE IS NO ADDITIONAL INFORMATION ON THIS TOPIC" instead of displaying the same information with different labels/names.

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SOLUTION
Cannot selectively give the GI option because a) the GI option applies to all (10) topics in the list of topics, some of which may have notes besides the main entry text while the others may not, b) there is not a quick way to know in advance (ie, before the user wants to choose GI) if a DDC number has more notes or not.

Even if a DDC number has main entry text only, the message "SORRY, THERE IS NO ADDITIONAL INFORMATION ON THIS TOPIC" may not be true. Each main entry text in the list of topics is truncated to fit in one line. Determining the existence of the notes and the length of the main entry text (to see if it has been truncated) in order to write or not to write the message will cost much valuable code space. Therefore, no messages will be displayed.

The labels/names for GI are consistant with those in the list of topics.

840913 JC Y DOC GI COMMENT 40
Use "DETAILED NOTES FOR TOPIC" instead of "DETAILED DEWEY NOTES FOR TOPIC" because the word "DEWEY" will mean nothing to the users unless it is explained; there is no need for that.

840913 JC Y DOC GI COMMENT 41
Use the same names for the fields as in the display of the DDC schedules: "DEWEY NUMBER" instead of "LOCATION", "TOPIC" instead of "MAIN TEXT".

840720 LP N both SA COMMENT 42
When the user's term is not found, the list of aspects should contain the user's term along with "0" postings instead of the message "*** Your term was not found ***".

REASON
Not fixed because this feature is not important enough to occupy more code space.

840810 RG C both SA COMMENT 43
SD "Search ---- for previous subject" is not well phrased.
SS

SOLUTION
Use "Search ---- for xxxx", where "xxxx" is the user's subject.

840810 RG N both SA COMMENT 44
"Search alphabetically for subject" is not well phrased. The user will not understand what that means. No suggestion.
840812 PC - ---- -- Same comment. May want to say "Browse subject area".

REASON
Not fixed because no matter what is used, the users will not understand anyway. They will still have to try each command first before knowing what it does.

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840812 PC N both SA COMMENT 45
SD Arrange the menus so that SD comes before SA (in SOC) and
SS SS comes before SA (in DOC) because a user usually wants
to use SD and SS before SA.

REASON
Not fixed because the users are encouraged to use SA first.

840812 PC both SA COMMENT 46
What is the meaning of the asterisk (*) in the left margin
of the list of aspects?
To mark the subject heading that matches the user's.

840815 SD N both SA COMMENT 47
When a user looks at a list of aspects and a list of
options, he/she has the tendency to enter a line (instead of
the option SL and a line) in order to select the items. May
want accept the entered line as the option SL and a line.

REASON
Not fixed because 1) this command would not be consistent
with the rest of the commands, 2) when the user looks at
a list of topics, there are many other options (not just
the SL option) that require a line as an input.

840910 pc N DOC SA COMMENT 48
If the user's term or phrase does not have a match with SA,
do an implicit SS. SA brings an alphabetical list of
DDCRIs; SS brings a hierarchical list of DDC captions. To
the user, the second list looks like an "alphabetical" list.

REASON
1) Could be confusing to the user to see different types of
lists.
2) A user may enter "integral ....", which may not be found
exactly via SA, but the list of DDCRIs may contain
"integration...", which could be useful.

840911 pc N DOC SA COMMENT 49
The browse list resulted from an SA command contains 10
DDCRIs; the 3rd line (ie, line C) has the matched DDCRI.
The user may select one or more lines (ie, one or more
DDCRIs) to have the items displayed. After the items have
been displayed, DOC brings back the list of DDCRIs. The
list of DDCRIs before and after the display of the items
are identical. Suggestion: After the user has selected
one line to have the items displayed, display the "after"
list of DDCRIs in such a way that the selected line is
placed in line C.
(The same comment may apply for SOC's SA.)

REASON
1) What if the user has selected more than 1 line?
2) We are not sure if the users prefer to see a different
list of aspects after selecting the items.

840906 TH N DOC SC COMMENT 50
SS When a list of topics is displayed, may want to provide
a diagram in one corner of the screen (inset) to show

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where the list of topics is in context of the Dewey hierarchy of the DDC schedules. This suggestion may not be relevant at this time but could be useful in the future.

REASON
Not provided because 1) it is impossible to do this on the LSI-11, 2) the DDC numbers displayed in the list of topics should already show the context.

840924 PM N DOC SA COMMENT 51
The double hyphens used in the DDCRIs look strange in some subject; e.g., "Quadratic--equations."

REASON
The indentation in the printed volume of the DDCRI serves two purposes: a) as an equivalent of the word before it so that the word does not have to be repeated, and b) as a divider between a broad subject and a narrow subject. The double hyphens used to imitate the indentation can serve the latter purpose only. The computer cannot distinguish the two types of indentation in order to give meaningful DDCRIs.

841002 dp both SA COMMENT 52
Why is the message "Your term was not found" in the middle of the list of aspects?
The message is in the place where the given term would be if it were found.

840905 AW C SOC SD COMMENT 53
The displayed result of the example "SD QUARTIC CURVES" is confusing:

```
      7 ITEMS FOR "QUARTIC"
     20 ITEMS FOR "CURVES"
      7 ITEMS IN SET 1
```

Is set 1 for "QUARTIC"? If so, where is the set for "CURVES"?

In reality, set 1 is the resulting set of ANDing 7 items for "QUARTIC" and 20 items for "CURVES". Suggestion: May want to use "7 ITEMS" instead of "7 ITEMS IN SET 1".

SOLUTION:
Keep the messages for the intermediate results as they are. Change the result message to, in this case, "7 ITEMS IN SET 1 (QUARTIC CURVES)".

840924 PM C DOC SD COMMENT 54
"Search directly for subject" is not easy to understand. May want to use a card that explains the meaning of this search (and other searches.)
840925 HC - --- -- What is the meaning of "Search directly"?

SOLUTION
The initial screen will have a brief explanation of each type of search.

8408 CH C both SL COMMENT 55
"Select lines" should be changed to "Display items at location" or "Display titles".

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SOLUTION
Use "Select line(s) to display items".
"Display items at location" does not apply when a user is choosing from the list of aspects (ie, LC subject headings or DDCRI, and no DDC numbers). "Display titles" is not true because the entire bib records are displayed, not just the titles.

840905 AW C both SL COMMENT 56
May want to use "xx items" instead of "xx items in set y".
840911 pc ---- -- In the case of selecting from a DDC schedule, may want to append the matched subject to the end of the message. Eg: "11 items in set 2 -- 516.9 Non-Euclidean geometries." The addtion of the DDC number will familiarize the users with the DDC numbers, in case they want to search by call numbers. Must also change the field name "Call number" to "Dewey Call Number" or "Dewey Class Number".

SOLUTION
Will append the DDC number and main entry text to the message. However, there is no need to change the field name. The call number search says "Search for call number", not "Search for Dewey call number" or "Search for Dewey class number".

8408 CH C DOC SS COMMENT 57
It should be made clear to the users what is happening.
Eg: Why is the perspective "algebra" given when "ideals" is searched for?
1. What is a perspective and what does it do to my search?
2. Why did it give me "algebra" instead of "ideals"?
3. Why did it get more general instead of more specific?

SOLUTION
Display a message "Your topic is treated from x perspectives" where "x" is the number of perspectives.

840720 LP C both SS COMMENT 58
Provide the capability to do an SD or SS from a list of aspects that results from an SA search.

SOLUTION
This capability is (almost) provided in DOC via the BT or ST option, but is not provided in SOC. Also see the REASON and SOLUTION to COMMENT 60 below.

840905 AW N DOC SS COMMENT 59
May want to use the description "Search by classification for subject" instead of "Search systematically for subject".
840921 DP - --- -- "Search systematically for subject" is not clear. Prefers "Search by classification for subject".
840924 PM - --- -- May want to provide a card that explains the meaning of the the search.

REASON
1) There is a brief explanation for each search in the initial screen.
2) No matter how these messages are phrased, the users will

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not thoroughly understand by reading them; they will have to try the searches at least one.

840911 pc C DOC SS COMMENT 60

Suppose a user does SA s1 (to search alphabetically for subject s1), SL x (to select subject s2, at line x, from the list of DDCRI entries), and SS (to search systematically for a subject s3). Note that the user does not have to enter s3 along with the option SS; DOC supplies s3. Suggestion: s3 should be identical to s2, and not s1.

REASONS:

1) When the user chooses the SS option after SA has been used, the user's subject is used for the SS function (ie, s3 is identical to s1, as in the above example.) This was designed so that the user can search for the same subject via two approaches SA and SS in a simple manner.
2) The user can do an "almost" SS on the selected DDCRI entry by using the already-available BT (Browse a topic) command. There are 2 differences between the SS and BT options:
   a) SS does a keyword search on many fields such as LCSH, title, DDCRI, DDC schedules, etc... BT simply branches to the corresponding portion of the DDC schedules.
   b) SS displays displays a list of perspectives (ie, a list of main entry text at the 3-digit level.) BT displays a list of topics (ie, DDC schedules with DDC numbers.)

SOLUTION

Still use the subject from the SA command for the SS command. And change "BT Browse a topic" to "ST Search systematically for a topic in the list."

840925 HC N both SS COMMENT 61

What is the meaning of the asterisk (*) in the left margin of the list of topics?

To mark the topic of interest.

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Appendix D. University of Illinois' SOC Subject Search for "Multivariate Analysis"

```
                UNIVERSITY OF ILLINOIS - LIBRARY OF MATHEMATICS
                -----------------------------------------------

You will be searching a bibliography of 7,316 items by using either the
Subject Online Catalog or Dewey Online Catalog.

Do you want Subject or Dewey Online Catalog? (S=Subject, D=Dewey) > s


 ---------------------------------------------------------
 |                                                       |
 |                  SUBJECT ONLINE CATALOG               |
 |                                                       |
 |  * Search for subject and browse an alphabetical      |
 |    list of subjects near your subject (SA).           |
 |  * Search directly for subject and retrieve number    |
 |    of items on your subject (SD).                     |
 |  * Search directly for call number and retrieve       |
 |    number of items with your call number (SC).        |
 |                                                       |
 |  Remember to end your typing with the "RETURN" key,   |
 |  and erase with the "DELETE" key.                     |
 |                                                       |
 ---------------------------------------------------------

OPTION  DESCRIPTION
    SA  Search alphabetically for subject
    SD  Search directly for subject
    SC  Search for call number
    ES  End search

What would you like to do? > sa
Enter subject to search > multivariate analysis

>>>>> YOUR REQUEST...sa:multivariate analysis

LINE ITEMS TOPICS--ASPECTS
   A     1 Multiprocessors
   B     1 Multivariance analysis--Tables, etc
 * C    13 Multivariate analysis
   D     1 Multivariate analysis--Addresses, essays, lectures
   E     1 Multivariate analysis--Congresses
   F     1 Multivariate analysis--Problems, exercises, etc
   G     1 Munitions--United States--Congresses
   H     1 Muskhelishvili, N. I--(Nikolai Ivanovich)--1891-
   I     1 Mysticism
   J     1 Napier Tercentenary Exhibition, Edinburgh
```


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Appendix D--Continued

```
OPTION  DESCRIPTION
    BF  Browse forward
    BB  Browse backward
    SD  Search directly for "multivariate analysis"
    SL  Select line(s) to display items
    SO  Start over

What would you like to do? > sl
Enter lines (separated by commas) or ALL to select > c,d,e,f

>>>>> YOUR REQUEST...sl c,d,e,f
      16 ITEMS IN SET 1  (Multivariate analysis ...)


ITEM 1 OF 16
CALL NUMBER      510 Am8m, no.147
TITLE            Identification and informative sample size
LC SUBJECT       Mathematical statistics
                 Multivariate analysis
                 Time-series analysis
                 Sampling (Statistics)--Mathematical models
AUTHOR           Tigelaar, H. H.
PUBLISHER        Amsterdam : Mathematisch Centrum, 1982.
SERIES           Mathematical centre tracts

Would you like to see the next item? ("RETURN"=yes, N=no) >


ITEM 2 OF 16
CALL NUMBER      511.8 H179
TITLE            Latent-Trait-Modelle : die messtheoretische und multivariate
                 statistische Analyse kategorialer Reaktionsmodelle
LC SUBJECT       Mathematical models
                 Multivariate analysis
AUTHOR           Hamerle, Alfred.
PUBLISHER        Weinheim : Beltz, 1982.
SERIES           Beltz Forschungsberichte

Would you like to see the next item? ("RETURN"=yes, N=no) >


ITEM 3 OF 16
CALL NUMBER      512.9434 K892t
TITLE            Tests for the equality of the covariance matrices of correlated
                 multivariate normal populations
LC SUBJECT       Multivariate analysis
                 Matrices
AUTHOR           Krishnaiah, P. R.
PUBLISHER        Wright-Patterson Air Force Base : Aerospace Research
                 Laboratories, 1975.
```


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Appendix D--Continued

```
Would you like to see the next item? ("RETURN"=yes, N=no) >

ITEM 4 OF 16
CALL NUMBER      519 L521i 1980
TITLE            Introduction aux analyses statistques multidimensionnelles
LC SUBJECT       Multivariate analysis
AUTHOR           Lefebvre, Jacques, 1918-
EDITION          2e ed. rev. et augm.
PUBLISHER        Paris ; New York : Masson, 1980.

Would you like to see the next item? ("RETURN"=yes, N=no) >

ITEM 5 OF 16
CALL NUMBER      519.5 L521i, 1980
TITLE            Introduction aux analyses statistques multidimensionnelles
LC SUBJECT       Multivariate analysis
AUTHOR           Lefebvre, Jacques, 1918-
EDITION          2e ed. rev. et augm.
PUBLISHER        Paris ; New York : Masson, 1980.

Would you like to see the next item? ("RETURN"=yes, N=no) >

ITEM 6 OF 16
CALL NUMBER      519.5 M422
TITLE            Mathematical statistics
LC SUBJECT       Mathematical statistics--Addresses, essays, lectures
                 Multivariate analysis--Addresses, essays, lectures
                 Stochastic processes--Addresses, essays, lectures
AUTHOR           Bartoszynski, R. (Robert)
                 Koronacki, Jacek.
                 Zielinski, Ryszard.
PUBLISHER        Warszawa : PWN Polish Scientific Publishers, 1980.
SERIES           Banach Center publications

Would you like to see the next item? ("RETURN"=yes, N=no) >

ITEM 7 OF 16
CALL NUMBER      519.535 An26i
TITLE            An introduction to multivariate statistical analysis.
LC SUBJECT       Multivariate analysis
                 Mathematical statistics
AUTHOR           Anderson, Theodore Wilbur.
PUBLISHER        New York, Wiley 1958
SERIES           Wiley publications in statistics

Would you like to see the next item? ("RETURN"=yes, N=no) >

ITEM 8 OF 16
CALL NUMBER      519.535 B631c
TITLE            Certain minimax estimators of the mean of multivariate normal
                 distribution
LC SUBJECT       Multivariate analysis
                 Distributions (Probability)
AUTHOR           Bock, Mary Ellen, 1944-
PUBLISHER        Urbana, 1974
```


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Appendix D--Continued

```
Would you like to see the next item? ("RETURN"=yes, N=no) >

ITEM 9 OF 16
CALL NUMBER       519.535 Ea8m
TITLE             Multivariate statistical analysis
LC SUBJECT        Multivariate analysis
AUTHOR            Eaton, Morris L.
PUBLISHER         Kbenhavn, Kbenhavns Universitet, Institut for Matematisk
                  Statistik, 1972.

Would you like to see the next item? ("RETURN"=yes, N=no) >

ITEM 10 OF 16
CALL NUMBER       519.535 M913
TITLE             Multivariate analysis: proceedings of the International
                  Symposium on Multivariate Analysis.
LC SUBJECT        Multivariate analysis--Congresses
AUTHOR            Krishnaiah, Paruchuri R
SPONSOR           International Symposium on Multivariate Analysis.
PUBLISHER         Amsterdam ; New York : North Holland Pub. Co. ; New York :
                  distributors for the U.S.A. and Canada, Elsevier North-Holland,
                  1966-

Would you like to see the next item? ("RETURN"=yes, N=no) >

ITEM 11 OF 16
CALL NUMBER       519.535 N145e
TITLE             Exercices commentes de mathematiques pour l'analyse statistique
                  des donnees
LC SUBJECT        Multivariate analysis--Problems, exercises, etc
                  Mathematical statistics--Problems, exercises, etc
AUTHOR            Nakache, Jean-Pierre.
                  Chevalier, Anne.
                  Morice, Vincent.
PUBLISHER         Paris : Dunod, c1981.
SERIES            Dunod decision

Would you like to see the next item? ("RETURN"=yes, N=no) >

ITEM 12 OF 16
CALL NUMBER       519.535 P449
TITLE             Pratique de l'analyse des donnees.
LC SUBJECT        Multivariate analysis
                  Analysis of variance
CONTENTS          1. Benzecri, J.P. et al. Analyse des correspondances: expose
                  elementaire.--2. Bastin, Ch. et al. Abrege theorique: etudes de
                  cas modele.--3. Abdi, H. et al. Linguistique & lexicologie.
PUBLISHER         Paris : Dunod, c1980-c1981.
SERIES            Travaux du Laboratoire de statistique de l'Universite
                  Pierre-et-Marie-Curie et de l'E.R.A. 772 du Centre national de
                  la recherche scientifique
```


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```
Would you like to see the next item? ("RETURN"=yes, N=no) >


ITEM 13 OF 16
CALL NUMBER      519.535 P92a, 1982
TITLE            Applied multivariate analysis : using Bayesian and frequentist
                 methods of inference
LC SUBJECT       Multivariate analysis
AUTHOR           Press, S. James
EDITION          2nd ed.
PUBLISHER        Malabar, Fla. : R.E. Krieger Pub. Co., 1982.

Would you like to see the next item? ("RETURN"=yes, N=no) >


ITEM 14 OF 16
CALL NUMBER      519.535 Sr38i
TITLE            An introduction to applied multivariate statistics
LC SUBJECT       Multivariate analysis
AUTHOR           Srivastava, M. S.
                 Carter, E. M. (Edward M.)
PUBLISHER        New York : North Holland, c1983.

Would you like to see the next item? ("RETURN"=yes, N=no) >


ITEM 15 OF 16
CALL NUMBER      519.535 T139f:E
TITLE            The foundations of multivariate analysis : a unified approach
                 by means of projection onto linear subspaces
LC SUBJECT       Multivariate analysis
AUTHOR           Takeuchi, Kei, 1933-
                 Mukherjee, Bishwa Nath, 1933-
                 Yanai, Haruo.
PUBLISHER        New York : John Wiley, 1982.

Would you like to see the next item? ("RETURN"=yes, N=no) >


ITEM 16 OF 16
CALL NUMBER      519.5352 P42s
TITLE            Stopping time of invariant sequential probability ratio tests
                 in multivariate analysis of variance
LC SUBJECT       Analysis of variance
                 Multivariate analysis
AUTHOR           Perng, Shien-Sen, 1939-
PUBLISHER        Urbana, 1974
---------------- END OF DISPLAY ----------------


Press "RETURN" to resume search >


LINE ITEMS TOPICS--ASPECTS
   A     1 Multiprocessors
   B     1 Multivariance analysis--Tables, etc
   C    13 Multivariate analysis
   D     1 Multivariate analysis--Addresses, essays, lectures
   E     1 Multivariate analysis--Congresses
   F     1 Multivariate analysis--Problems, exercises, etc
   G     1 Munitions--United States--Congresses
   H     1 Muskhelishvili, N. I--(Nikolai Ivanovich)--1891-
   I     1 Mysticism
   J     1 Napier Tercentenary Exhibition, Edinburgh

OPTION  DESCRIPTION
    BF  Browse forward
    BB  Browse backward
    SD  Search directly for "multivariate analysis"
    SL  Select line(s) to display items
    SO  Start over
```


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Appendix D--Continued

```
What would you like to do? > bb

>>>>> YOUR REQUEST...bb

LINE ITEMS TOPICS--ASPECTS
   A      1 Monge-Ampere equations
   B      1 Monoids
   C      1 Monotone operators
   D      4 Monte Carlo method
   E      1 Monte Carlo method--Addresses, essays, lectures
   F      1 Morgenstern, Oskar--1902-1977
   G      1 Morphisms (Mathematics)
   H      1 Multiplication
   I      7 Multiplication--Tables
   J      1 Multiprocessors

OPTION  DESCRIPTION
    BF  Browse forward
    BB  Browse backward
    SD  Search directly for "multivariate analysis"
    SL  Select line(s) to display items
    SO  Start over

What would you like to do? > sd

>>>>> YOUR REQUEST...sd:multivariate analysis
       21 ITEMS FOR "multivariate"
      454 ITEMS FOR "analysis"
       17 ITEMS IN SET 2  (multivariate analysis)

   THE FOLLOWING IS A SUMMARY OF YOUR SEARCHES:
   SET  ITEMS    REQUEST
     1     16    sa:Multivariate analysis ...
     2     17    sd:multivariate analysis

OPTION  DESCRIPTION
    DI  Display items
    SO  Start over

What would you like to do? > di
Enter a set number to display > 2

>>>>> YOUR REQUEST...di 2


ITEM 1 OF 17
CALL NUMBER      510 Am8m, no.147
TITLE            Identification and informative sample size
LC SUBJECT       Mathematical statistics
                 Multivariate analysis
                 Time-series analysis
                 Sampling (Statistics)--Mathematical models
AUTHOR           Tigelaar, H. H.
PUBLISHER        Amsterdam : Mathematisch Centrum, 1982.
SERIES           Mathematical centre tracts

Would you like to see the next item? ("RETURN"=yes, N=no) >


ITEM 2 OF 17
CALL NUMBER      311.8 H179
TITLE            Latent-Trait-Modelle : die messtheoretische und multivariate
                 statistische Analyse kategorialer Reaktionsmodelle
LC SUBJECT       Mathematical models
                 Multivariate analysis
AUTHOR           Hamerle, Alfred.
PUBLISHER        Weinheim : Beltz, 1982.
SERIES           Beltz Forschungsberichte
```


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Appendix D--Continued

```
Would you like to see the next item? ("RETURN"=yes, N=no) >

ITEM 3 OF 17
CALL NUMBER     512.9434 K892t
TITLE           Tests for the equality of the covariance matrices of correlated
                multivariate normal populations
LC SUBJECT      Multivariate analysis
                Matrices
AUTHOR          Krishnaiah, P. R.
PUBLISHER       Wright-Patterson Air Force Base : Aerospace Research
                Laboratories, 1975.

Would you like to see the next item? ("RETURN"=yes, N=no) >

ITEM 4 OF 17
CALL NUMBER     519 L521i 1980
TITLE           Introduction aux analyses statistques multidimensionnelles
LC SUBJECT      Multivariate analysis
AUTHOR          Lefebvre, Jacques, 1918-
EDITION         2e ed. rev. et augm.
PUBLISHER       Paris ; New York : Masson, 1980.

Would you like to see the next item? ("RETURN"=yes, N=no) >

ITEM 5 OF 17
CALL NUMBER     519.5 L521i, 1980
TITLE           Introduction aux analyses statistques multidimensionnelles
LC SUBJECT      Multivariate analysis
AUTHOR          Lefebvre, Jacques, 1918-
EDITION         2e ed. rev. et augm.
PUBLISHER       Paris ; New York : Masson, 1980.

Would you like to see the next item? ("RETURN"=yes, N=no) >

ITEM 6 OF 17
CALL NUMBER     519.5 M422
TITLE           Mathematical statistics
LC SUBJECT      Mathematical statistics--Addresses, essays, lectures
                Multivariate analysis--Addresses, essays, lectures
                Stochastic processes--Addresses, essays, lectures
AUTHOR          Bartoszynski, R. (Robert)
                Koronacki, Jacek.
                Zielinski, Ryszard.
PUBLISHER       Warszawa : PWN Polish Scientific Publishers, 1980.
SERIES          Banach Center publications

Would you like to see the next item? ("RETURN"=yes, N=no) >

ITEM 7 OF 17
CALL NUMBER     519.535 An26i
TITLE           An introduction to multivariate statistical analysis.
LC SUBJECT      Multivariate analysis
                Mathematical statistics
AUTHOR          Anderson, Theodore Wilbur.
PUBLISHER       New York, Wiley 1958
SERIES          Wiley publications in statistics

Would you like to see the next item? ("RETURN"=yes, N=no) >
```


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Appendix D--Continued

```
ITEM 8 OF 17
CALL NUMBER       519.535 B631c
TITLE             Certain minimax estimators of the mean of multivariate normal
                  distribution
LC SUBJECT        Multivariate analysis
                  Distributions (Probability)
AUTHOR            Bock, Mary Ellen, 1944-
PUBLISHER         Urbana, 1974

Would you like to see the next item? ("RETURN"=yes, N=no) >

ITEM 9 OF 17
CALL NUMBER       519.535 Ea8m
TITLE             Multivariate statistical analysis
LC SUBJECT        Multivariate analysis
AUTHOR            Eaton, Morris L.
PUBLISHER         Kbenhavn, Kbenhavns Universitet, Institut for Matematisk
                  Statistik, 1972.

Would you like to see the next item? ("RETURN"=yes, N=no) >

ITEM 10 OF 17
CALL NUMBER       519.535 M913
TITLE             Multivariate analysis: proceedings of the International
                  Symposium on Multivariate Analysis.
LC SUBJECT        Multivariate analysis--Congresses
AUTHOR            Krishnaiah, Paruchuri R
SPONSOR           International Symposium on Multivariate Analysis.
PUBLISHER         Amsterdam ; New York : North Holland Pub. Co. ; New York :
                  distributors for the U.S.A. and Canada, Elsevier North-Holland,
                  1966-

Would you like to see the next item? ("RETURN"=yes, N=no) >

ITEM 11 OF 17
CALL NUMBER       519.535 N145e
TITLE             Exercices commentes de mathematiques pour l'analyse statistique
                  des donnees
LC SUBJECT        Multivariate analysis--Problems, exercises, etc
                  Mathematical statistics--Problems, exercises, etc
AUTHOR            Nakache, Jean-Pierre.
                  Chevalier, Anne.
                  Morice, Vincent.
PUBLISHER         Paris : Dunod, c1981.
SERIES            Dunod decision

Would you like to see the next item? ("RETURN"=yes, N=no) >

ITEM 12 OF 17
CALL NUMBER       519.535 P449
TITLE             Pratique de l'analyse des donnees.
LC SUBJECT        Multivariate analysis
                  Analysis of variance
CONTENTS          1. Benzecri, J.P. et al. Analyse des correspondances: expose
                  elementaire.--2. Bastin, Ch. et al. Abrege theorique: etudes de
                  cas modele.--3. Abdi, H. et al. Linguistique & lexicologie.
PUBLISHER         Paris : Dunod, c1980-c1981.
SERIES            Travaux du Laboratoire de statistique de l'Universite
                  Pierre-et-Marie-Curie et de l'E.R.A. 772 du Centre national de
                  la recherche scientifique
```


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```
Would you like to see the next item? ("RETURN"=yes, N=no) >

ITEM 13 OF 17
CALL NUMBER      519.535 P92a, 1982
TITLE            Applied multivariate analysis : using Bayesian and frequentist
                 methods of inference
LC SUBJECT       Multivariate analysis
AUTHOR           Press, S. James
EDITION          2nd ed.
PUBLISHER        Malabar, Fla. : R.E. Krieger Pub. Co., 1982.

Would you like to see the next item? ("RETURN"=yes, N=no) >

ITEM 14 OF 17
CALL NUMBER      519.535 Sch88t
TITLE            Tables for a multivariate F distribution
LC SUBJECT       Multivariance analysis--Tables, etc
AUTHOR           Schuurmann, F. J.
                 Krishnaiah, P. R.
                 Chattopadhyay, A. K.
PUBLISHER        Wright-Patterson Air Force Base : Aerospace Research
                 Laboratories, 1973.

Would you like to see the next item? ("RETURN"=yes, N=no) >

ITEM 15 OF 17
CALL NUMBER      519.535 Sr38i
TITLE            An introduction to applied multivariate statistics
LC SUBJECT       Multivariate analysis
AUTHOR           Srivastava, M. S.
                 Carter, E. M. (Edward M.)
PUBLISHER        New York : North Holland, c1983.

Would you like to see the next item? ("RETURN"=yes, N=no) >

ITEM 16 OF 17
CALL NUMBER      519.535 T139f:E
TITLE            The foundations of multivariate analysis : a unified approach
                 by means of projection onto linear subspaces
LC SUBJECT       Multivariate analysis
AUTHOR           Takeuchi, Kei, 1933-
                 Mukherjee, Bishwa Nath, 1933-
                 Yanai, Haruo.
PUBLISHER        New York : John Wiley, 1982.

Would you like to see the next item? ("RETURN"=yes, N=no) >

ITEM 17 OF 17
CALL NUMBER      519.5352 P42s
TITLE            Stopping time of invariant sequential probability ratio tests
                 in multivariate analysis of variance
LC SUBJECT       Analysis of variance
                 Multivariate analysis
AUTHOR           Perng, Shien-Sen, 1939-
PUBLISHER        Urbana, 1974
---------- END OF DISPLAY ----------
```


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Appendix D--Continued

```
Press "RETURN" to resume search >


   THE FOLLOWING IS A SUMMARY OF YOUR SEARCHES:
   SET  ITEMS    REQUEST
     1     16    sa:Multivariate analysis ...
     2     17    sd:multivariate analysis

OPTION  DESCRIPTION
    DI  Display items
    SO  Start over

What would you like to do? > so

>>>>> YOUR REQUEST...so

OPTION  DESCRIPTION
    SA  Search alphabetically for subject
    SD  Search directly for subject
    SC  Search for call number
    RS  Review your searches
    ES  End search

What would you like to do? > sc
Enter call number (between 510 and 519.86) to search > 519.53

>>>>> YOUR REQUEST...sc:519.53
      53 ITEMS IN SET 3  (519.53)

   THE FOLLOWING IS A SUMMARY OF YOUR SEARCHES:
   SET  ITEMS    REQUEST
     1     16    sa:Multivariate analysis ...
     2     17    sd:multivariate analysis
     3     53    sc:519.53

OPTION  DESCRIPTION
    DI  Display items
    SO  Start over

What would you like to do? > di
Enter a set number to display > 3

>>>>> YOUR REQUEST...di 3


ITEM 1 OF 53
CALL NUMBER      FILM 519.53 D327u
TITLE            Unbiased tests, unbeased estimators, and randomized similar
                 regions
LC SUBJECT       Mathematical statistics
AUTHOR           Dawson, Reed Barnes.
PUBLISHER        1953.
```


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```
Would you like to see the next item? ("RETURN"=yes, N=no) >

ITEM 2 OF 53
CALL NUMBER      519.53 E23p, 1936
TITLE            Primer of statistics
LC SUBJECT       Statistics
AUTHOR           Elderton, William Palin, 1877-
                 Elderton, Ethel M. (Ethel Mary).
PUBLISHER        London : A. and C. Black. 1936, c1927

Would you like to see the next item? ("RETURN"=yes, N=no) >n


   THE FOLLOWING IS A SUMMARY OF YOUR SEARCHES:
   SET  ITEMS    REQUEST
     1     16    sa:Multivariate analysis ...
     2     17    sd:multivariate analysis
     3     53    sc:519.53

OPTION  DESCRIPTION
    DI  Display items
    SO  Start over

What would you like to do? > so

>>>>> YOUR REQUEST...so

OPTION  DESCRIPTION
    SA  Search alphabetically for subject
    SD  Search directly for subject
    SC  Search for call number
    RS  Review your searches
    ES  End search

What would you like to do? > sc
Enter call number (between 510 and 519.86) to search > 519.535

>>>>> YOUR REQUEST...sc:519.535
       19 ITEMS IN SET 4  (519.535)

   THE FOLLOWING IS A SUMMARY OF YOUR SEARCHES:
   SET  ITEMS    REQUEST
     1     16    sa:Multivariate analysis ...
     2     17    sd:multivariate analysis
     3     53    sc:519.53
     4     19    sc:519.535

OPTION  DESCRIPTION
    DI  Display items
    SO  Start over

What would you like to do? > di 4

>>>>> YOUR REQUEST...di 4


ITEM 1 OF 19
CALL NUMBER      519.535 An26i
TITLE            An introduction to multivariate statistical analysis.
LC SUBJECT       Multivariate analysis
                 Mathematical statistics
AUTHOR           Anderson, Theodore Wilbur.
```


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Appendix D--Continued

```
PUBLISHER       New York, Wiley 1958
SERIES          Wiley publications in statistics

Would you like to see the next item? ("RETURN"=yes, N=no) >


ITEM 2 OF 19
CALL NUMBER     519.535 B631c
TITLE           Certain minimax estimators of the mean of multivariate normal
                distribution
LC SUBJECT      Multivariate analysis
                Distributions (Probability)
AUTHOR          Bock, Mary Ellen, 1944-
PUBLISHER       Urbana, 1974

Would you like to see the next item? ("RETURN"=yes, N=no) >


ITEM 3 OF 19
CALL NUMBER     519.535 Ea8m
TITLE           Multivariate statistical analysis
LC SUBJECT      Multivariate analysis
AUTHOR          Eaton, Morris L.
PUBLISHER       Kbenhavn, Kbenhavns Universitet, Institut for Matematisk
                Statistik, 1972.

Would you like to see the next item? ("RETURN"=yes, N=no) >n


   THE FOLLOWING IS A SUMMARY OF YOUR SEARCHES:
   SET  ITEMS    REQUEST
     1     16    sa:Multivariate analysis ...
     2     17    sd:multivariate analysis
     3     53    sc:519.53
     4     19    sc:519.535

OPTION  DESCRIPTION
    DI  Display items
    SO  Start over

What would you like to do? > so

>>>>> YOUR REQUEST...so

OPTION  DESCRIPTION
    SA  Search alphabetically for subject
    SD  Search directly for subject
    SC  Search for call number
    RS  Review your searches
    ES  End search
```


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Appendix E. University of Illinois' DOC Subject Search for "Multivariate Analysis"

```
                UNIVERSITY OF ILLINOIS - LIBRARY OF MATHEMATICS
                -----------------------------------------------

You will be searching a bibliography of 7,316 items by using either the
Subject Online Catalog or Dewey Online Catalog.

Do you want Subject or Dewey Online Catalog? (S=Subject, D=Dewey) > d


        ------------------------------------------------------------
        |                   DEWEY ONLINE CATALOG                   |
        |  * Search for subject and browse an alphabetical         |
        |    list of subjects near your subject (SA).              |
        |  * Search for subject and browse an outline of           |
        |    subjects related to your subject (SS).                |
        |  * Search directly for subject and retrieve number       |
        |    of items on your subject (SD).                        |
        |  * Search for call number and browse an outline of       |
        |    meanings of call numbers (SC).                        |
        |                                                          |
        |  Remember to end your typing with the "RETURN" key,      |
        |  and erase with the "DELETE" key.                        |
        ------------------------------------------------------------

OPTION  DESCRIPTION
    SA  Search alphabetically for subject
    SS  Search subject outline for subject
    SD  Search directly for subject
    SC  Search for call number
    ES  End search

What would you like to do? > sa
Enter subject to search > multivariate analysis

>>>>> YOUR REQUEST...sa:multivariate analysis

LINE ITEMS TOPICS--ASPECTS
   A     1 Multiplication--arithmetic
   B    14 Multistage programming--mathematics
     *** YOUR SUBJECT WAS NOT FOUND. PLEASE TRY ANOTHER SEARCH OPTION ***
   C    13 Multivariate analysis--statistical mathematics
   D    15 n
   E    15 n-ary invariants algebra
   F    66 Nets (mathematics)
   G     6 Nets (mathematics)--combinatorial topology
   H     7 Neumann function
   I    60 Nilpotent algebras and groups
   J   161 Non-Euclidean geometries

OPTION  DESCRIPTION
    BF  Browse forward
    BB  Browse backward
    ST  Search subject outline for a topic from the list
    SS  Search subject outline for "multivariate analysis"
    SD  Search directly for "multivariate analysis"
    SL  Select line(s) to display items
    SO  Start over
```


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```
What would you like to do? > sl
Enter lines (separated by commas) or ALL to select > c

>>>>> YOUR REQUEST...sl c
      13 ITEMS IN SET 1  (Multivariate analysis--statistical mathematics)


ITEM 1 OF 13
CALL NUMBER       519.535 An26i
TITLE             An introduction to multivariate statistical analysis.
LC SUBJECT        Multivariate analysis
                  Mathematical statistics
DEWEY SUBJECT     Descriptive statistics and multivariate analysis. Multivariate
                  analysis.
AUTHOR            Anderson, Theodore Wilbur.
PUBLISHER         New York, Wiley 1958
SERIES            Wiley publications in statistics

Would you like to see the next item? ("RETURN"=yes, N=no) >


ITEM 2 OF 13
CALL NUMBER       519.535 B631c
TITLE             Certain minimax estimators of the mean of multivariate normal
                  distribution
LC SUBJECT        Multivariate analysis
                  Distributions (Probability)
DEWEY SUBJECT     Descriptive statistics and multivariate analysis. Multivariate
                  analysis.
AUTHOR            Bock, Mary Ellen, 1944-
PUBLISHER         Urbana, 1974

Would you like to see the next item? ("RETURN"=yes, N=no) >


ITEM 3 OF 13
CALL NUMBER       519.535 Ea8m
TITLE             Multivariate statistical analysis
LC SUBJECT        Multivariate analysis
DEWEY SUBJECT     Descriptive statistics and multivariate analysis. Multivariate
                  analysis.
AUTHOR            Eaton, Morris L.
PUBLISHER         Kbenhavn, Kbenhavns Universitet, Institut for Matematisk
                  Statistik, 1972.

Would you like to see the next item? ("RETURN"=yes, N=no) >


ITEM 4 OF 13
CALL NUMBER       519.535 KB92s
TITLE             Some asymptotic simultaneous tests for multivariate moving
                  average processes
LC SUBJECT        Asymptotes
DEWEY SUBJECT     Descriptive statistics and multivariate analysis. Multivariate
                  analysis.
AUTHOR            Krichnaiah, P. R.
PUBLISHER         Wright-Patterson Air Force Base : Aerospace Research
                  Laboratories, 1969.
```


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Appendix E--Continued

```
Would you like to see the next item? ("RETURN"=yes, N=no) >

ITEM 5 OF 13
CALL NUMBER       519.535 M913
TITLE             Multivariate analysis: proceedings of the International
                  Symposium on Multivariate Analysis.
LC SUBJECT        Multivariate analysis--Congresses
DEWEY SUBJECT     Descriptive statistics and multivariate analysis. Multivariate
                  analysis.
AUTHOR            Krishnaiah, Paruchuri R
SPONSOR           International Symposium on Multivariate Analysis.
PUBLISHER         Amsterdam ; New York : North Holland Pub. Co. ; New York :
                  distributors for the U.S.A. and Canada, Elsevier North-Holland,
                  1966-

Would you like to see the next item? ("RETURN"=yes, N=no) >

ITEM 6 OF 13
CALL NUMBER       519.535 N145e
TITLE             Exercices commentes de mathematiques pour l'analyse statistique
                  des donnees
LC SUBJECT        Multivariate analysis--Problems, exercises, etc
                  Mathematical statistics--Problems, exercises, etc
DEWEY SUBJECT     Descriptive statistics and multivariate analysis. Multivariate
                  analysis.
AUTHOR            Nakache, Jean-Pierre.
                  Chevalier, Anne.
                  Morice, Vincent.
PUBLISHER         Paris : Dunod, c1981.
SERIES            Dunod decision

Would you like to see the next item? ("RETURN"=yes, N=no) >

ITEM 7 OF 13
CALL NUMBER       519.535 P449
TITLE             Pratique de l'analyse des donnees.
LC SUBJECT        Multivariate analysis
                  Analysis of variance
DEWEY SUBJECT     Descriptive statistics and multivariate analysis. Multivariate
                  analysis.
CONTENTS          1. Benzecri, J.P. et al. Analyse des correspondances: expose
                  elementaire.--2. Bastin, Ch. et al. Abrege theorique: etudes de
                  cas modele.--3. Abdi, H. et al. Linguistique & lexicologie.
PUBLISHER         Paris : Dunod, c1980-c1981.
SERIES            Travaux du Laboratoire de statistique de l'Universite
                  Pierre-et-Marie-Curie et de l'E.R.A. 772 du Centre national de
                  la recherche scientifique

Would you like to see the next item? ("RETURN"=yes, N=no) >
```


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```
ITEM 8 OF 13
CALL NUMBER       519.535 P92a, 1982
TITLE             Applied multivariate analysis : using Bayesian and frequentist
                  methods of inference
LC SUBJECT        Multivariate analysis
DEWEY SUBJECT     Descriptive statistics and multivariate analysis. Multivariate
                  analysis.
AUTHOR            Press, S. James
EDITION           2nd ed.
PUBLISHER         Malabar, Fla. : R.E. Krieger Pub. Co., 1982.

Would you like to see the next item? ("RETURN"=yes, N=no) >

ITEM 9 OF 13
CALL NUMBER       519.535 R93v
TITLE             Variational methods in statistics
LC SUBJECT        Mathematical statistics
                  Calculus of variations
DEWEY SUBJECT     Descriptive statistics and multivariate analysis. Multivariate
                  analysis.
AUTHOR            Rustagi, Jagdish S.
PUBLISHER         New York : Academic Press, 1976.
SERIES            Mathematics in science and engineering ; v. 121

Would you like to see the next item? ("RETURN"=yes, N=no) >

ITEM 10 OF 13
CALL NUMBER       519.535 Sch88t
TITLE             Tables for a multivariate F distribution
LC SUBJECT        Multivariance analysis--Tables, etc
DEWEY SUBJECT     Descriptive statistics and multivariate analysis. Multivariate
                  analysis.
AUTHOR            Schuurmann, F. J.
                  Krishnaiah, P. R.
                  Chattopadhyay, A. K.
PUBLISHER         Wright-Patterson Air Force Base : Aerospace Research
                  Laboratories, 1973.

Would you like to see the next item? ("RETURN"=yes, N=no) >

ITEM 11 OF 13
CALL NUMBER       519.535 Sr38i
TITLE             An introduction to applied multivariate statistics
LC SUBJECT        Multivariate analysis
DEWEY SUBJECT     Descriptive statistics and multivariate analysis. Multivariate
                  analysis.
AUTHOR            Srivastava, M. S.
                  Carter, E. M. (Edward M.)
PUBLISHER         New York : North Holland, c1983.

Would you like to see the next item? ("RETURN"=yes, N=no) >
```


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```
ITEM 12 OF 13
CALL NUMBER       519.535 T139f:E
TITLE             The foundations of multivariate analysis : a unified approach
                  by means of projection onto linear subspaces
LC SUBJECT        Multivariate analysis
DEWEY SUBJECT     Descriptive statistics and multivariate analysis. Multivariate
                  analysis.
AUTHOR            Takeuchi, Kei, 1933-
                  Mukherjee, Bishwa Nath, 1933-
                  Yanai, Haruo.
PUBLISHER         New York : John Wiley, 1982.

Would you like to see the next item? ("RETURN"=yes, N=no) >


ITEM 13 OF 13
CALL NUMBER       FILM 519.535 T538n
TITLE             New results in the variate difference method
LC SUBJECT        Variate difference method
DEWEY SUBJECT     Descriptive statistics and multivariate analysis. Multivariate
                  analysis.
AUTHOR            Tintner, Gerhard.
                  Rao, J. N. K., 1937-
                  Strecker, Heinrich, 1922-
PUBLISHER         Gottingen : Vandenhoeck und Ruprecht, 1978.
SERIES            Applied statistics and econometrics
----------------- END OF DISPLAY -----------------
Press "RETURN" to resume search >


LINE ITEMS TOPICS--ASPECTS
   A     1 Multiplication--arithmetic
   B    14 Multistage programming--mathematics
   C    13 Multivariate analysis--statistical mathematics
   D    15 n
   E    15 n-ary invariants algebra
   F    66 Nets (mathematics)
   G     6 Nets (mathematics)--combinatorial topology
   H     7 Neumann function
   I    60 Nilpotent algebras and groups
   J   161 Non-Euclidean geometries

OPTION  DESCRIPTION
    BF  Browse forward
    BB  Browse backward
    ST  Search subject outline for a topic from the list
    SS  Search subject outline for "multivariate analysis"
    SD  Search directly for "multivariate analysis"
    SL  Select line(s) to display items
    SO  Start over
```


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```
What would you like to do? > st c

>>>>> YOUR REQUEST...st c

Items about your subject are treated under 519.535 in the following outline.


GENERAL TOPIC : 519.53 Descriptive statistics and multivariate
    LINE  ITEMS  LOCATION          TOPIC
       A      8  519.532           Frequency distributions.
       B      1  519.533           Measures of central tendency.
       C      0  519.534           Measures of deviation.
*      D     19  519.535           Multivariate analysis.
       E     13  519.536           Regression analysis.
       F      5  519.537           Correlation analysis.

OPTION  DESCRIPTION
    BG  Browse more general topics
    BS  Browse more specific topics
    GN  Get detailed notes for a topic
    SL  Select line(s) to display items
    SO  Start over

What would you like to do? > bs
Enter a line to browse > d

>>>>> YOUR REQUEST...bs d


GENERAL TOPIC : 519.535 Multivariate analysis.
    LINE  ITEMS  LOCATION          TOPIC
       A      3  519.5352          Analysis of variance and covariance.
       B      3  519.5354          Factor analysis.

OPTION  DESCRIPTION
    BG  Browse more general topics
    BS  Browse more specific topics
    GN  Get detailed notes for a topic
    SL  Select line(s) to display items
    SO  Start over

What would you like to do? > sl a

>>>>> YOUR REQUEST...sl a
        3 ITEMS IN SET 2  (519.5352 Analysis of variance and covariance.)


ITEM 1 OF 3
CALL NUMBER      FILM 519.5352 G129i
TITLE            Introduction to analysis of variance procedures
LC SUBJECT       Analysis of variance
                 Behavioral sciences
                 Models, Theoretical
                 Research design
DEWEY SUBJECT    Multivariate analysis. Analysis of variance and covariance.
AUTHOR           Gaito, John.
PUBLISHER        New York : MSS Information Corp., 1973

Would you like to see the next item? ("RETURN"=yes, N=no) >
```


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Appendix E--Continued

```
ITEM 2 OF 3
CALL NUMBER      519.5352 G987
TITLE            Linear models : an introduction
LC SUBJECT       Linear models (Statistics)
DEWEY SUBJECT    Multivariate analysis. Analysis of variance and covariance.
AUTHOR           Guttman, Irwin.
PUBLISHER        New York : Wiley, c1982.
SERIES           Wiley series in probability and mathematical statistics

Would you like to see the next item? ("RETURN"=yes, N=no) >


ITEM 3 OF 3
CALL NUMBER      519.5352 P42s
TITLE            Stopping time of invariant sequential probability ratio tests
                 in multivariate analysis of variance
LC SUBJECT       Analysis of variance
                 Multivariate analysis
DEWEY SUBJECT    Multivariate analysis. Analysis of variance and covariance.
AUTHOR           Perng, Shien-Sen, 1939-
PUBLISHER        Urbana, 1974
---------- END OF DISPLAY ----------
Press "RETURN" to resume search >


GENERAL TOPIC : 519.535 Multivariate analysis.
    LINE  ITEMS  LOCATION         TOPIC
       A      3  519.5352         Analysis of variance and covariance.
       B      3  519.5354         Factor analysis.

OPTION  DESCRIPTION
    BG  Browse more general topics
    BS  Browse more specific topics
    GN  Get detailed notes for a topic
    SL  Select line(s) to display items
    SO  Start over

What would you like to do? > so

>>>>> YOUR REQUEST...so

OPTION  DESCRIPTION
    SA  Search alphabetically for subject
    SS  Search subject outline for subject
    SD  Search directly for subject
    SC  Search for call number
    RS  Review your searches
    ES  End search
```


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```
What would you like to do? > ss
Enter subject to search > multivariate analysis

>>>>> YOUR REQUEST...ss:multivariate analysis

  Please wait ....
YOUR SUBJECT IS TREATED FROM ONLY ONE PERSPECTIVE:

LINE  PERSPECTIVES
   A  Probabilities and applied mathematics.

OPTION  DESCRIPTION
    BP  Browse a perspective
    SO  Start over

What would you like to do? > bp

>>>>> YOUR REQUEST...bp A

Items about your subject are treated under 519.53 in the following outline.


GENERAL TOPIC : 519.5 Statistical mathematics.
    LINE  ITEMS  LOCATION          TOPIC
       A      3  519.52            Theory of sampling.
*      B     53  519.53            Descriptive statistics and multivariate
       C     28  519.54            Statistical inference.
       D     12  519.55            Time series analysis.
       E      7  519.56            Statistical hypothesis testing.

OPTION  DESCRIPTION
    BG  Browse more general topics
    BS  Browse more specific topics
    GN  Get detailed notes for a topic
    SL  Select line(s) to display items
    RP  Return to perspectives list
    SO  Start over

What would you like to do? > bg

>>>>> YOUR REQUEST...bg


GENERAL TOPIC : 519 Probabilities and applied mathematics.
    LINE  ITEMS  LOCATION          TOPIC
       A    142  519.2             Probabilities.
       B     32  519.3             Game theory.
       C     74  519.4             Applied numerical analysis.
       D    241  519.5             Statistical mathematics.
       E     92  519.7             Programming.
       F     23  519.8             Special topics.

OPTION  DESCRIPTION
    BG  Browse more general topics
    BS  Browse more specific topics
    GN  Get detailed notes for a topic
    SL  Select line(s) to display items
    RP  Return to perspectives list
    SO  Start over
```


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```
What would you like to do? > gn
Enter a line > d

>>>>> YOUR REQUEST...gn d

DETAILED NOTES FOR TOPIC : Statistical mathematics.

LOCATION        519.5
TOPIC           Statistical mathematics.
ALSO            Also numerical data, parametric and nonparametric methods.

Press "RETURN" to resume search >


GENERAL TOPIC : 519 Probabilities and applied mathematics.
    LINE  ITEMS  LOCATION          TOPIC
       A    142  519.2             Probabilities.
       B     32  519.3             Game theory.
       C     74  519.4             Applied numerical analysis.
       D    241  519.5             Statistical mathematics.
       E     92  519.7             Programming.
       F     23  519.8             Special topics.

OPTION  DESCRIPTION
    BG  Browse more general topics
    BS  Browse more specific topics
    GN  Get detailed notes for a topic
    SL  Select line(s) to display items
    RP  Return to perspectives list
    SO  Start over

What would you like to do? > sl d

>>>>> YOUR REQUEST...sl d
      241 ITEMS IN SET 3  (519.5 Statistical mathematics.)


ITEM 1 OF 241
CALL NUMBER     519.5 Am32s
TITLE           Statistical problems of the Kinsey report on sexual behavior in
                the human male; A report of the American Statistical
                Association, Committee to advise the National Research Council,
                Committee for Research in Problems of Sex
LC SUBJECT      Kinsey, Alfred Charles--1894-1956
                Sex
                Men--Sexual behavior
                Statistics
DEWEY SUBJECT   Probabilities and applied mathematics. Statistical mathematics.
AUTHOR          Cochran, William Gemmell, 1909-
                American Statistical Association.
                National Research Council. Committee for Research in Problems
                of Sex.
PUBLISHER       Washington, American Statistical Association, 1954.

Would you like to see the next item? ("RETURN"=yes, N=no) >
```


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Appendix E--Continued

```
ITEM 2 OF 241
CALL NUMBER      519.5 Ar4o, 1943
TITLE            An outline of statistical methods : as applied to economics,
                 business, education, social and physical sciences, etc.
LC SUBJECT       Statistics
DEWEY SUBJECT    Probabilities and applied mathematics. Statistical mathematics.
AUTHOR           Arkin, Herbert, 1906-
                 Colton, Raymond Roosevelt.
EDITION          4th ed.
PUBLISHER        New York : Barnes & Noble, 1943
SERIES           College outline series

Would you like to see the next item? ("RETURN"=yes, N=no) >n


GENERAL TOPIC : 519 Probabilities and applied mathematics.
    LINE  ITEMS  LOCATION         TOPIC
       A    142  519.2            Probabilities.
       B     32  519.3            Game theory.
       C     74  519.4            Applied numerical analysis.
       D    241  519.5            Statistical mathematics.
       E     92  519.7            Programming.
       F     23  519.8            Special topics.

OPTION  DESCRIPTION
    BG  Browse more general topics
    BS  Browse more specific topics
    GN  Get detailed notes for a topic
    SL  Select line(s) to display items
    RP  Return to perspectives list
    SO  Start over

What would you like to do? > so

>>>>> YOUR REQUEST...so

OPTION  DESCRIPTION
    SA  Search alphabetically for subject
    SS  Search subject outline for subject
    SD  Search directly for subject
    SC  Search for call number
    RS  Review your searches
    ES  End search

What would you like to do? > sd
Enter subject to search > multivariate analysis

>>>>> YOUR REQUEST...sd:multivariate analysis
       62 ITEMS FOR "multivariate"
      743 ITEMS FOR "analysis"
       59 ITEMS IN SET 4  (multivariate analysis)

   THE FOLLOWING IS A SUMMARY OF YOUR SEARCHES:
   SET  ITEMS    REQUEST
     1     13    sa:Multivariate analysis--statistical mathematics
     2      3    st:519.5352 Analysis of variance and covariance.
     3    241    ss:519.5 Statistical mathematics.
     4     59    sd:multivariate analysis
```


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```
OPTION  DESCRIPTION
    DI  Display items
    SO  Start over

What would you like to do? > di 4

>>>>> YOUR REQUEST...di 4


ITEM 1 OF 59
CALL NUMBER      510 AmBm, no.147
TITLE            Identification and informative sample size
LC SUBJECT       Mathematical statistics
                 Multivariate analysis
                 Time-series analysis
                 Sampling (Statistics)--Mathematical models
DEWEY SUBJECT    Mathematics.
AUTHOR           Tigelaar, H. H.
PUBLISHER        Amsterdam : Mathematisch Centrum, 1982.
SERIES           Mathematical centre tracts

Would you like to see the next item? ("RETURN"=yes, N=no) >


ITEM 2 OF 59
CALL NUMBER      511.8 H179
TITLE            Latent-Trait-Modelle : die messtheoretische und multivariate
                 statistische Analyse kategorialer Reaktionsmodelle
LC SUBJECT       Mathematical models
                 Multivariate analysis
DEWEY SUBJECT    Generalities. Mathematical models (Mathematical simulation).
AUTHOR           Hamerle, Alfred.
PUBLISHER        Weinheim : Beltz, 1982.
SERIES           Beltz Forschungsberichte

Would you like to see the next item? ("RETURN"=yes, N=no) >


ITEM 3 OF 59
CALL NUMBER      512.9434 K892t
TITLE            Tests for the equality of the covariance matrices of correlated
                 multivariate normal populations
LC SUBJECT       Multivariate analysis
                 Matrices
DEWEY SUBJECT    Determinants and matrices. Matrices.
AUTHOR           Krishnaiah, P. R.
PUBLISHER        Wright-Patterson Air Force Base : Aerospace Research
                 Laboratories, 1975.

Would you like to see the next item? ("RETURN"=yes, N=no) >


ITEM 4 OF 59
CALL NUMBER      519 L521i 1980
TITLE            Introduction aux analyses statistques multidimensionnelles
LC SUBJECT       Multivariate analysis
DEWEY SUBJECT    Probabilities and applied mathematics.
AUTHOR           Lefebvre, Jacques, 1918-
EDITION          2e ed. rev. et augm.
PUBLISHER        Paris ; New York : Masson, 1980.

Would you like to see the next item? ("RETURN"=yes, N=no) >
```


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Appendix E--Continued

```
ITEM 5 OF 59
CALL NUMBER       519.5 L521i, 1980
TITLE             Introduction aux analyses statistques multidimensionnelles
LC SUBJECT        Multivariate analysis
DEWEY SUBJECT     Probabilities and applied mathematics. Statistical mathematics.
AUTHOR            Lefebvre, Jacques, 1918-
EDITION           2e ed. rev. et augm.
PUBLISHER         Paris ; New York : Masson, 1980.

Would you like to see the next item? ("RETURN"=yes, N=no) >


ITEM 6 OF 59
CALL NUMBER       519.5 M422
TITLE             Mathematical statistics
LC SUBJECT        Mathematical statistics--Addresses, essays, lectures
                  Multivariate analysis--Addresses, essays, lectures
                  Stochastic processes--Addresses, essays, lectures
DEWEY SUBJECT     Probabilities and applied mathematics. Statistical mathematics.
AUTHOR            Bartoszynski, R. (Robert)
                  Koronacki, Jacek.
                  Zielinski, Ryszard.
PUBLISHER         Warszawa : PWN Polish Scientific Publishers, 1980.
SERIES            Banach Center publications

Would you like to see the next item? ("RETURN"=yes, N=no) >n


   THE FOLLOWING IS A SUMMARY OF YOUR SEARCHES:
   SET  ITEMS    REQUEST
     1     13    sa:Multivariate analysis--statistical mathematics
     2      3    st:519.5352 Analysis of variance and covariance.
     3    241    ss:519.5 Statistical mathematics.
     4     59    sd:multivariate analysis

OPTION  DESCRIPTION
    DI  Display items
    SO  Start over

What would you like to do? > so

>>>>> YOUR REQUEST...so

OPTION  DESCRIPTION
    SA  Search alphabetically for subject
    SS  Search subject outline for subject
    SD  Search directly for subject
    SC  Search for call number
    RS  Review your searches
    ES  End search

What would you like to do? > sc
```


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Appendix E--Continued

```
Enter call number (between 510 and 519.86) to search > 519.5

>>>>> YOUR REQUEST...sc:519.5

Items about your subject are treated under 519.5 in the following outline.


GENERAL TOPIC : 519 Probabilities and applied mathematics.
    LINE  ITEMS  LOCATION         TOPIC
       A    142  519.2            Probabilities.
       B     32  519.3            Game theory.
       C     74  519.4            Applied numerical analysis.
*      D    241  519.5            Statistical mathematics.
       E     92  519.7            Programming.
       F     23  519.8            Special topics.

OPTION  DESCRIPTION
    BG  Browse more general topics
    BS  Browse more specific topics
    GN  Get detailed notes for a topic
    SL  Select line(s) to display items
    SO  Start over

What would you like to do? > bs
Enter a line to browse > d

>>>>> YOUR REQUEST...bs d


GENERAL TOPIC : 519.5 Statistical mathematics.
    LINE  ITEMS  LOCATION         TOPIC
       A      3  519.52           Theory of sampling.
       B     53  519.53           Descriptive statistics and multivariate
       C     28  519.54           Statistical inference.
       D     12  519.55           Time series analysis.
       E      7  519.56           Statistical hypothesis testing.

OPTION  DESCRIPTION
    BG  Browse more general topics
    BS  Browse more specific topics
    GN  Get detailed notes for a topic
    SL  Select line(s) to display items
    SO  Start over

What would you like to do? > sl
Enter lines (separated by commas) or ALL to select > b

>>>>> YOUR REQUEST...sl b
      53 ITEMS IN SET 5  (519.53 Descriptive statistics and multivariate analysis.


ITEM 1 OF 53
CALL NUMBER      FILM 519.53 D327u
TITLE            Unbiased tests, unbeased estimators, and randomized similar
                 regions
LC SUBJECT       Mathematical statistics
DEWEY SUBJECT    Statistical mathematics. Descriptive statistics and
                 multivariate analysis.
AUTHOR           Dawson, Reed Barnes.
PUBLISHER        1953.

Would you like to see the next item? ("RETURN"=yes, N=no) >
```


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Appendix E--Continued

```
ITEM 2 OF 53
CALL NUMBER      519.53 E23p, 1936
TITLE            Primer of statistics
LC SUBJECT       Statistics
DEWEY SUBJECT    Statistical mathematics. Descriptive statistics and
                 multivariate analysis.
AUTHOR           Elderton, William Palin, 1877-
                 Elderton, Ethel M. (Ethel Mary).
PUBLISHER        London : A. and C. Black. 1936, c1927

Would you like to see the next item? ("RETURN"=yes, N=no) >n


GENERAL TOPIC : 519.5 Statistical mathematics.
    LINE  ITEMS  LOCATION         TOPIC
       A      3  519.52           Theory of sampling.
       B     53  519.53           Descriptive statistics and multivariate
       C     28  519.54           Statistical inference.
       D     12  519.55           Time series analysis.
       E      7  519.56           Statistical hypothesis testing.

OPTION  DESCRIPTION
    BG  Browse more general topics
    BS  Browse more specific topics
    GN  Get detailed notes for a topic
    SL  Select line(s) to display items
    SO  Start over

What would you like to do? > so

>>>>> YOUR REQUEST...so

OPTION  DESCRIPTION
    SA  Search alphabetically for subject
    SS  Search subject outline for subject
    SD  Search directly for subject
    SC  Search for call number
    RS  Review your searches
    ES  End search
```


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Appendix F. Sample Search Queries Worksheet

Questionnaire #_____

3.
SAMPLE SEARCH QUERIES
WORKSHEET

System: SOC DOC

Topic #1. _____

Time Search Begun:_____Time Search Ended:_____

List Printed Sources Consulted:

System: SOC DOC

Topic #2._____

Time Search Begun:_____Time Search Ended:_____

List Printed Sources Consulted:

Appendix G. Comparison Search Refusal Tally Sheet

6.

COMPARISON SEARCH
REFUSAL TALLY SHEET
(Completed by Interviewer)

1. Library: UI PLCFC NYSL LC

2. Date:_____

3. Time Recruiting Began:_____

4. Time Recruiting Ended:_____

5. Recruiter's Initials: KM JT

Refusal Number	Reason: No Time	Known-Item Search	Wrong Subject Area	No Reason	Other (Describe)
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
TOTAL REFUSALS:					

Appendix H. Agenda: Meeting of the Midproject Review Board to the DDC Online Project

AGENDA

Meeting of the Midproject Review Board to the DDC Online Project

January 21-22, 1985, Dublin, Ohio

The notebook is divided into seven sections which correspond to the seven thematic areas covered at the Meeting whose agenda is given below. In most of the seven sections, I have inserted written materials as background reading in preparation for the January 21-22 Meeting. In other sections, I have inserted material that we will use at this Meeting. Please bring the notebook to the Meeting of the Midproject Review Board.

January 21, 1985

1. 2-3 pm — Overview of the DDC Online Project, its objectives, research questions, experimental online catalogs' functions, and project progress to date.
   Speaker: Karen Markey
   Readings: LRTS paper from ALA 1984 annual meeting
   September 29, 1983 Proposal
   October 19, 1983 Addendum
   Interim Report to CLR dated April 1984

   NOTE: At 3 pm, the Midproject Review Board will divide into 2 groups. One group will attend a one-hour presentation of the Technical Overview of the DDC Experimental Online Catalogs; the other group will attend a one-hour, introductory, hands-on searching session using the experimental online catalogs. These groups will then switch and attend the other scheduled event for the next hour.

2. 3-4 pm and 4-5 pm — Technical Overview of the DDC Experimental Online Catalogs. Three areas will be highlighted: (1) The selection of subject-rich information from the DDC Schedules, Relative Index, and bibliographic records; (2) three subject searching strategies; and (3) presentations of bibliographic information.
   Speaker: Anh Demeyer
   Readings: Interim Report to CLR dated September 1984

3. 3-4 pm and 4-5 pm — Introductory, Hands-On Searching of the Experimental Online Catalogs. All participants will be able to use the experimental online catalogs to access a database of the University of Illinois Mathematics Library's bibliographic records. This initial online searching session will enable participants to familiarize themselves with the capabilities of an experimental online catalog in which the DDC is a user's tool for subject access, browsing, and display.
   Search Helpers: Karen Markey and Jeffrey Gerckens
   Readings: Sample SOC and DOC Searches

   5-7 pm — Early dinner at Wyandot Inn or Stouffer's Dublin Hotel.

4. 7-8:30 pm — Online Searching Session Comparing the Performance of the Experimental Online Catalogs. Review Board members will be able to perform a search for a topic of their own choosing or for a topic selected for inclusion in the retrieval tests with library staff at the University of Illinois. The Board members can compare the online catalog search performed in the system in which the DDC has been implemented as a user's tool with the search performed in the system without the DDC.
   Search Helpers: Jeffrey Gerckens and Karen Markey
   Readings: Suggested Search Topics

5. 8:30-9:30 pm — Online Catalog Search Debriefing. While the results of online searching is fresh in our minds, we can learn from the report of each Board Member's online search experience and begin to assess the systems' capabilities.
   Group Moderator: Karen Markey

   January 22

6. 8:30-10 am — Review of Retrieval Tests with Library Staff and Patrons. The two different retrieval tests with library staff and patrons will be described, especially the experimental procedures and instruments used. Results of the pretest at the University of Illinois will be highlighted and expected test results at the three remaining participating libraries covered.
   Speaker: Karen Markey
   Readings: Sample Search Experiment, Interviewer Questionnaire
   Comparison Search Experiment, Interviewer Questionnaire
   Refusal Sheet

7. 10-10:10 am — Break

10:10 am-12:30 pm — Impact of DDC Online Project. The participants will focus on a discussion of the DDC Online Project's impact on the Dewey Decimal Classification, Forest Press, classifications in general, capabilities and interfaces of online catalogs, and the philosophy of classification schedule-making. This discussion should help the DDC Online Project Team identify important areas for inclusion in its final report to CLR and should help in the selection of agenda issues for the CLR-sponsored Working Conference on Classification Online which concludes the DDC Online Project.

Group Moderator: Lee Jones

12:30-1:30 pm — Lunch in OCLC Cafeteria.

1:30-2 pm — Building Tours of OCLC. (Optional)

Appendix I. List of Participants: Meeting of the Midproject Review Board to the DDC Online Project

LIST OF PARTICIPANTS

Meeting of Midproject Review Board to DDC Online Project
Dublin, Ohio, January 21-22, 1985

Midproject Review Board

1. Barbara Dean
   Program Associate
   Council on Library Resources
   1785 Massachusetts Ave.
   Washington, DC 20036
   202-483-7474

2. Ron Diener
   Director, OHIONET, Inc.
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   Columbus, OH 43221
   614-486-2966

3. Lee Jones
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   202-483-7474

4. Gary Lawrence
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   Library Plans and Policies
   Library Studies & Research Division
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5. Carol Mandel
   Assistant University Librarian for Access Services
   Central University Library
   C075-G
   University of California, San Diego
   La Jolla, CA 92037
   619-451-3061

6. Brian Nielsen
   Head, Reference Department
   Northwestern University Library
   Evanston, IL 60201
   312-492-7658

7. Danuta Nitecki
   Public Services Office
   McKeldin Library
   University of Maryland at College Park
   College Park, MD 20742
   301-454-5977

Forest Press

1. Julianne Beall
   Decimal Classification Specialist
   Decimal Classification Division
   Room 507, Madison Building
   Library of Congress
   Washington, DC 20540
   202-287-6986

2. John Comaromi
   Chief, Decimal Classification Division
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   202-287-6991

Forest Press continued

3. Walter Curley
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4. Judy Kramer-Greene
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Forest Press
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5. John A. Humphry
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6. James M. O'Brien
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7. Elaine F. Svenonius
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Graduate School of Library and Information Science
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DDC Online Project Team at OCLC

1. Anh Demeyer
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614-764-6082

4. Daryl Poe
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614-764-6085

5. Janifer Thompson
Rm. 448, Sherman Hall
909 S. Fifth St.
Champaign, IL 61820
217-332-4831

Appendix J. Sample Search Experiment Interviewer Questionnaire

Questionnaire #_____

Library: UI PLCFC NYSL LC First System: SOC DOC

Gender: M F Date:_____Time:_____ Interviewer: KM JT

2.

SAMPLE SEARCH EXPERIMENT
INTERVIEWER QUESTIONNAIRE

A. Introduction.

Hello. I'm _____ from the OCLC Online Computer Library Center in Dublin, Ohio, a not-for-profit computer service and research organization for libraries. We are conducting a study to find out how well this online catalog helps library patrons and staff find library material pertinent to their search topics. I am going to ask you to complete a total of 6 online subject searches in this computer catalog. I'll present you with 2 search topics at a time. You will perform online searches for each of these 2 topics in one of the 2 online catalogs accessed by this terminal. These 2 online catalogs are very similar to one another except for their searching capabilities. They contain the same bibliographic items. When you finish searches for two topics, I'm going to ask you some questions about the search and ask you to look back at the printed search to determine which retrieved items are relevant to the search topic.

B. Demographic Questions

1. How many times have you used this online catalog, i.e., the one used for this experiment?

_____Never before ——→ Would you like to take about 10 minutes to familiarize yourself with the searching of the catalogs? (Interviewer remains nearby to answer questions and change the catalogs from SOC to DOC, or visa versa, DOC to SOC)?

_____1 time

_____2 times

_____3 or more times

_____ Yes

_____ No

2. Do you use the library's computer catalog:

_____Daily

_____Weekly

_____Monthly

_____A few times a year

_____Never before

3. Other than the library's computer catalog, do you use a computer system (including subsystems of the library's automated library system):

_____Daily

_____Weekly

_____Monthly

_____A few times a year

_____Never before

4. What category best describes your library work duties:

_____Administration. Please identify:_____

_____Interlibrary Loan

_____Reference Services. Please identify:_____

_____Serials Control

_____Technical Services. Please identify:_____

_____Other. Please identify:_____

C. Search pair 1.

1. On this sheet (handing sheet to librarian) are listed 2 searches for different topics. Please complete an online search for the first online search topic in SOC DOC, change systems, then complete an online search in SOC DOC for the second topic listed. Try to be comprehensive in your search and try more than 1 subject search option. Please do not reverse the order of performing searches for these 2 topics. You can use any printed or online tools that you would normally use for a catalog search when performing online searches for both topics. Mark down the time when you begin and end each online search. After you finish searching both topics, I am going to ask you some questions about the searches and search results. So you'll want to print out bibliographic records that you retrieve during the search. Please go ahead and use the computer catalog and I'll wait (over there) until you're finished to ask you the questions. (Interviewer sits quietly out of sight.)

2. Tell me any specific difficulties you had using the online catalog to perform the first search listed.

3. Tell me what you would like to help you improve the first online catalog search?

4. Tell me any specific difficulties you had using the online catalog to perform the second search listed.

5. Tell me what you would like to help you improve the second online catalog search?

6. What capability (or function) of the first catalog you used was most helpful for directing you to information relevant to the topic?

7. What capability (or function) of the second catalog you used was most helpful for directing you to information relevant to the topic?

8. What differences between the two online catalogs did you notice? (Probes: in the retrieved items, in the options provided by the catalogs, in the subject terms listed by the catalogs)

9. How did these differences help you (or hinder you) to carry out the online search?

10. For the 2 searches, which type of catalog was most satisfactory:

_____SOC Why?

_____DOC

_____No difference

11. Please review all the items on this printout and consider each item's relevance to the search topic. Was the item Relevant, Possibly Relevant, or Not Relevant to the search topic? Place an R beside an item you determine Relevant, a P beside an item you determine Possibly Relevant, and an N beside an item you determine Not Relevant. I'll wait (over there) until you are finished to proceed.

D. Search pair 2.

1. On this sheet (handing sheet to librarian) are listed 2 more searches for different topics. Please complete an online search for the <u>first</u> online search topic in <u>SOC DOC</u>, change systems, then complete an online search in <u>SOC DOC</u> for the <u>second</u> topic listed. Please do not reverse the order of performing searches. Try to be comprehensive in your search and try more than 1 subject search option. You can use any printed or online tools that you would normally use for a catalog search. Mark down the time when you begin and end each online search. After you finish searching both topics, I am going to ask you some questions about the searches and search results. So you'll want to print out bibliographic records that you retrieve during the search. Please go ahead and use the computer catalog and I'll wait (over there) until you're finished to ask you the questions. (Interviewer sits quietly out of sight.)

2. Tell me any specific difficulties you had using the online catalog to perform the first search listed.

3. Tell me what you would like to help you improve the first online catalog search?

4. Tell me any specific difficulties you had using the online catalog to perform the second search listed.

5. Tell me what you would like to help you improve the second online catalog search?

6. What capability (or function) of the first catalog you used was most helpful for directing you to information relevant to the topic?

7. What capability (or function) of the second catalog you used was most helpful for directing you to information relevant to the topic?

8. What differences between the two online catalogs did you notice? (Probes: in the retrieved items, in the options provided by the catalogs, in the subject terms listed by the catalogs)

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9. How did these differences help you (or hinder you) to carry out the online search?

10. For the 2 searches, which type of catalog was most satisfactory:

_____SOC Why?

_____DOC

_____No difference

11. Please review all the items listed on this printout and consider each item's relevance to the search topic. Was the item Relevant, Possibly Relevant, or Not Relevant to the search topic? Place an R beside an item you determine Relevant, a P beside an item you determine Possibly Relevant, and an N beside an item you determine Not Relevant. I'll wait (over there) until you're finished to proceed. (Interviewer sits quietly out of sight.)

E. Search Pair 3.

1. On this sheet (handing sheet to librarian) are listed 2 more searches for different topics. Please complete an online search for the first online search topic in SOC DOC, change systems, then complete an online search in SOC DOC for the second topic listed. Try to be comprehensive in your search and try more than 1 subject search option. Please do not reverse the order of performing searches. You can use any printed or online tools that you would normally use for a catalog search. Mark down the time when you begin and end each online search. After you finish searching both topics, I am going to ask you some questions about the searches and search results. So you'll want to print bibliographic records that you retrieve during the search. Please go ahead and use the online catalog and I'll wait (over there) until you're finished to ask you the questions. (Interviewer sits quietly out of sight.)

2. Tell me any specific difficulties you had using the online catalog to perform the first search listed.

3. Tell me what you would like to help you improve the first online catalog search?

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4. Tell me any specific difficulties you had using the online catalog to perform the second search listed.

5. Tell me what you would like to help you improve the second online catalog search?

6. What capability (or function) of the first catalog you used was most helpful for directing you to information relevant to the topic?

7. What capability (or function) of the second catalog you used was most helpful for directing you to information relevant to the topic?

8. What differences between the two online catalogs did you notice? (Probes: in the retrieved items, in the options provided by the catalogs, in the subject terms listed by the catalogs)

9. How did these differences help you (or hinder you) to carry out the online search?

10. For the 2 searches, which type of catalog was most satisfactory:

_____SOC Why?

_____DOC

_____No difference

11. Please review all the items on this printout and consider each item's relevance to the search topic. Was the item Relevant, Possibly Relevant, or Not Relevant to the search topic? Place an R beside an item you can determine Relevant, a P beside an item you determine Possibly Relevant, and an N beside an item you determine Not Relevant. I'll wait (over there) until you're finished to proceed. (Interviewer sits quietly out of sight.)

F. General Questions.

1. Think about the searches that you performed in SOC. What features, capabilities, and aspects of SOC were particularly desirable? Undesirable? Suggestions to improve the system?

2. Think about the searches that you performed in DOC. What features, capabilities, and aspects of DOC were particularly desirable? Undesirable? Suggestions to improve the system?

3. Overall, do you have a preference for:

_____SOC Why?

_____DOC

_____No preference

4. Are there any additional comments you care to make concerning your use of SOC and DOC?

THANK YOU for participating in our study of computer catalogs.

Appendix K. Comparison Search Experiment Interviewer Questionnaire

Questionnaire #_____ Date:_____

Library: UI PLCFC NYSL LC

First System: SOC DOC Interviewer: KM JT Gender: M F

5.
COMPARISON SEARCH EXPERIMENT
INTERVIEWER QUESTIONNAIRE

A. Introduction.

Hello. I'm_____ from the OCLC Online Computer Library Center in Dublin, Ohio, a not-for-profit computer service and research organization for libraries. We are conducting a study to find out how well this online catalog helps you find what you are looking for. We would like you to participate in our study. In return, you will receive a hardcopy print of your search results.

B. Demographic questions.

1. For what topic will you be looking when searching the online catalog? (Interviewer: If this is known-item search or a search for a subject which is not in mathematics, terminate interview now by telling patron that catalogs can only accommodate subject searches in the area of mathematics.)

2. The purpose of your online catalog search is for:

____ Class or course-related purposes

____ Personal interest

____ Advanced research

____ Job-related purposes

3. How many times have you used this online catalog, i.e., the one used for this experiment?

_____Never before

_____1 time

_____2 times

_____3 times or more

4. (Only at UI, NYSL, LC) Do you use the library's computer catalog:

_____Daily

_____Weekly

_____Monthly

_____A few times a year

_____Never before

C. Online Searches.

Begin time: _____

End time: _____

1. Search in Online Catalog #1: SOC DOC
Please go ahead and use the online catalog to find what you are looking for. After you finish searching, I am going to ask you additional questions. (Interviewer sits quietly.)

2. Relevance assessment of search #1.

I'd like you to review the items listed on the printout and place a mark to the left of each item listed whether the item was relevant or possibly relevant or not relevant to your search topic; that is, place an "R" (for relevant), a "P" (for possibly relevant), or an "N" (for not relevant) beside listed items on the printout. (Interviewer sits quietly.)

Begin time: _____

End time: _____

3. Search in Online Catalog #2: SOC DOC
Now I'd like you to repeat your online search for the same topic using an online catalog that is very similar to the online catalog you just used except for its searching capabilities. The same bibliographic items are in this online catalog's database. After you finish searching, I am going to ask you some questions about your search. Please go ahead and use this computer catalog and I'll wait until you're finished to ask you the questions. (Interviewer sits quietly.)

4. Relevance Assessment of search #2.

I'd like you to review the items listed on the printout and place a mark to the left of each item listed whether the item was relevant or not relevant to your search topic; that is, place an "R" (for relevant) and an "N" (for not relevant) beside listed items on the prinout. (Interviewer sits quietly.)

D. General Questions.

1. Tell me any specific difficulties you had using the first computer catalog. (Probes: information displayed in alphabetical lists, selecting options, knowing what options would do to your search, understanding information - in book item displays - in alphabetical lists - in subject outlines, improvements to this system)

2. Tell me any specific difficulties you had using the second computer catalog. (Probes: see D.1.)

3. What differences between the 2 online catalogs did you notice? (Probes: in the search path you followed, in the retrieved items, in the options provided by the catalogs, in the subject terms listed by the catalogs)

4. How did these differences help you (or hinder) you to carry out the online search?

5. What capability (or function) of the first catalog you used was most helpful for directing you to information relevant to your topic?

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6. What capability (or function) of the second catalog you used was most helpful for directing you to information relevant to your topic?

7. Comparing the first online catalog you used to the second online catalog, did you find:

_____A greater amount of useful information in the first catalog than the second

_____About the same amount of information in both catalogs

_____A lesser amount of useful information in the first catalog than the second

_____No useful information whatsoever in the first catalog in comparison to the second

_____No useful information in either catalog

8. In relation to what you were looking for, would you say your search was more satisfactory using the first or second computer catalog?

_____First (circle: SOC DOC)

_____Second Why?

_____No difference

9. The next time you need to conduct a computer catalog search, will you want to use the first or second computer catalog?

_____First

_____Second Why?

_____No preference

10. Are there any additional comments you care to make concerning your use of the two computer catalogs?

THANK YOU for taking part in our study on computer catalogs. Let me give you a copy of your printout.

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